ENGLISH BOTANY;

OR,

COLOURED FIGURES

OF

BRITISH PLANTS,

WITH THEIR

ESSENTIAL CHARACTERS, SYNONYMS, AND PLACES OF GROWTH:

TO WHICH WILL BE ADDED,

OCCASIONAL REMARKS.

BY

JAMES EDWARD SMITH, M.D. F.R.S.

MEMBER OF THE IMP. ACAD. NATURÆ CURIOSORUM, THE ACADEMIES OF STOCKHOLM, UPSAL, TURIN, LISBON, LUND, BERLIN, PHILADELPHIA, AND THE NAT. HIST. SOCIETIES OF PARIS AND MOSCOW;
PRESIDENT OF THE LINNÆAN SOCIETY.

THE FIGURES BY
JAMES SOWERBY, F.L.S.

——"LONGARUM HÆC META VIARUM."——*Virg.*

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G.R. III.
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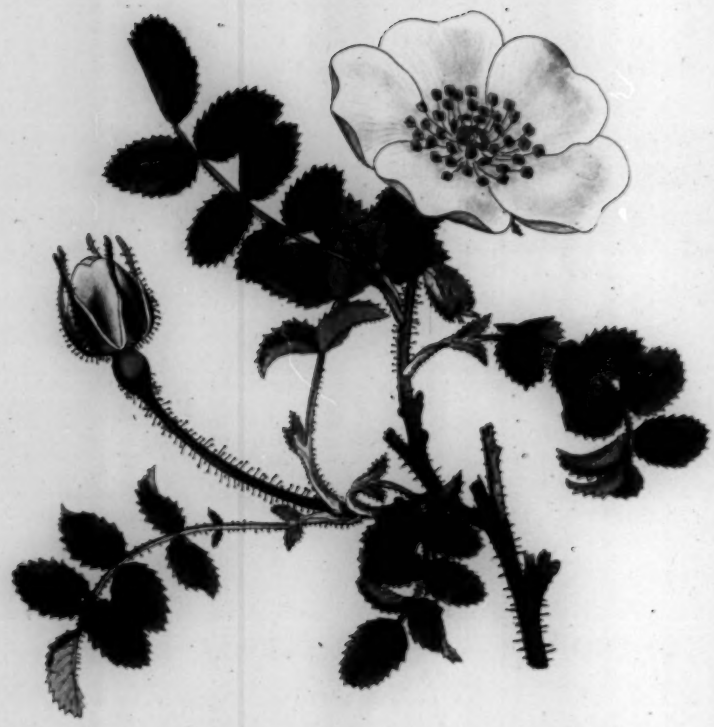


May 1.1815 published by J. & J. Sowerby London

ROSA rubella.

Red-fruited Dwarf Rose.

ICOSANDRIA Polygynia.

GEN. CHAR. *Cal.* urn-shaped, fleshy, contracted at the orifice, terminating in 5 segments. *Petals* 5. *Seeds* numerous, bristly, fixed to the inside of the calyx.

SPEC. CHAR. Fruit globose, somewhat bristly. Flower-stalks bristly. Stem spreading, clothed with straight slender spines. Leaflets elliptical, smooth. Segments of the calyx entire.

SYN. Rosa spinosissima γ. *Sm. Fl. Brit.* 537 ? *With.* 465 ? *Hull. ed.* 2. 148 ?

IT may literally be said that Roses spring up under our steps as we approach the close of our undertaking, for we have of late added more than could have been imagined to the species of that favourite but difficult tribe.

The present beautiful plant was sent from Newcastle by Mr. Winch. It differs from the common *R. spinosissima*, *t.* 187, in being a small, spreading bush, whereas the flowering stems of that species are strong and erect, more in the manner of *canina*. The leaflets are more elliptical and rather acute. Flowerstalks longer, and densely covered with glandular bristles, some of which are found also on the lower part of the germen, which is rather less globular than in *spinosissima*. About these marks however we might have hesitated; but the perfectly ripe fruit sent by Mr. Winch, though too much bruised to be drawn, is scarlet, not black, which is a character we have never known to vary. That in our *t.* 187, it must be observed, is but half ripe. The flowers and leaves are elegantly tinged with red, which may be accidental. The segments of the calyx, in both these species, are simple and entire; the leaflets smooth, with glandular stalks and ribs.

March 1819 published by Jas. Sowerby London.

ASTRAGALUS campestris.

Yellowish Mountain Milk-vetch.

DIADELPHIA Decandria.

GEN. CHAR. *Legume* of two cells, swelling.

SPEC. CHAR. Stem none. Stalk ascending. Calyx hairy. Leaflets lanceolate, acute. Legumes hairy, inflated, erect.

SYN. Astragalus campestris. *Linn. Sp. Pl.* 1072. *Willd. Sp. Pl. v.* 3. 1317.

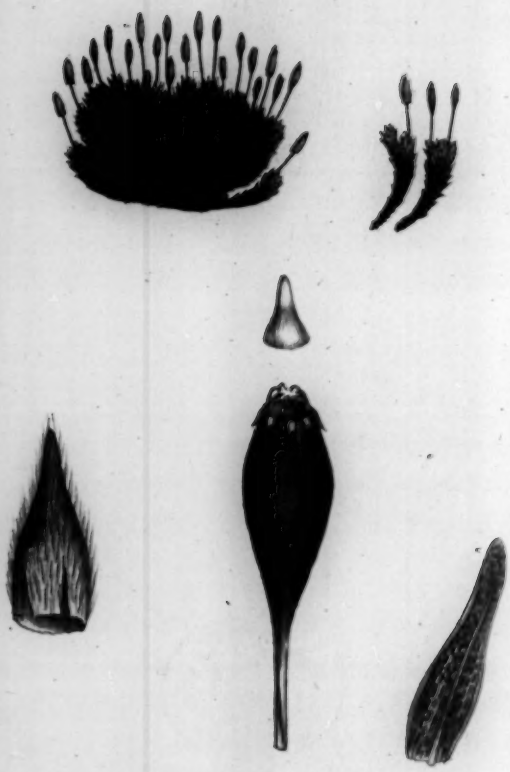
A. n. 406. *Hall. Hist. v.* 1. 177. *t.* 13.

A. uralensis. *Fl. Dan. t.* 1041.

A. sordidus. *Willd. Sp. Pl. v.* 3. 1313 ?

DISCOVERED by Mr. G. Don, in the summer of 1812, growing in great abundance, on a high rock, on one of the mountains at the head of Clova, Angusshire, near the White Water. The Bishop of Carlisle, to whom this new British plant was first sent, very justly determined it to be the *A. campestris*, and the plant of Haller, both which points we have confirmed by authentic specimens. There can scarcely be more doubt of its being the *uralensis* of Vahl in *Fl. Dan.* and therefore, we presume, *sordidus* of Willdenow, who has fallen into much error respecting this and our *uralensis*, *t.* 466.

The present is, as Mr. Don observes, a very splendid species. Its specific characters however are not easy to seize upon. The stalk is ascending, rather than erect, and sometimes decumbent. Flowers cream-coloured or buff, with more or less of a purple tinge on the keel and wings, discernible in Mr. Don's dried specimens, as well as in foreign ones, and mentioned by Linnæus and Haller. The leaflets are lanceolate, or somewhat ovate, acute, more or less silky. Legume more ovate and inflated than in *uralensis*, covered with short, spreading, black as well as white hairs.



Mawe as published by Jas Sowerby London

ORTHOTRICHUM Hutchinsiæ.

Long-stalked Bristle-moss.

CRYPTOGAMIA Musci.

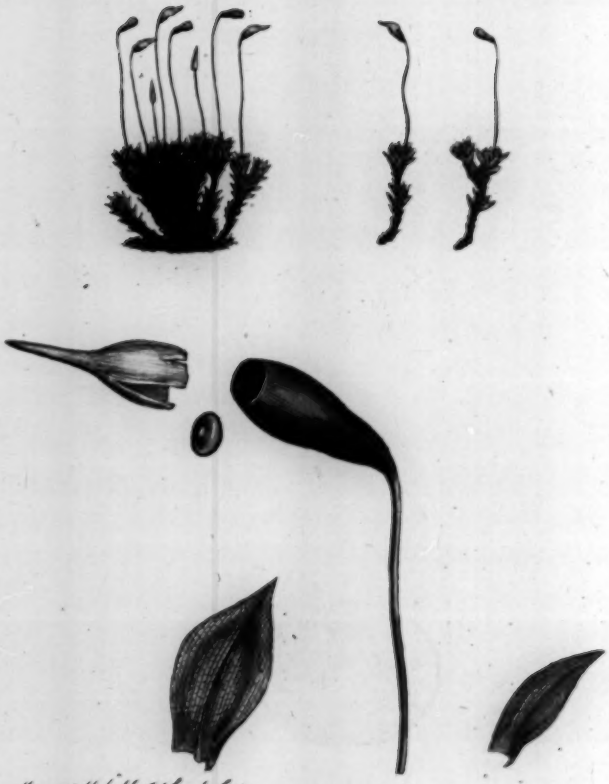
GEN. CHAR. *Caps.* oblong, terminal. *Outer fringe* of 16 teeth: *inner* of 8 or 16 bristles; or none. *Veil* angular, mostly clothed with erect hairs.

SPEC. CHAR. Stem branched. Leaves lanceolate, obtuse, keeled, revolute, much shorter than the fruitstalk. Veil crenate. Inner fringe of eight teeth. Capsule ovate.

THIS new *Orthotrichum* was gathered near Bantry by Miss Hutchins, a lady whose numerous discoveries in the more difficult departments of Botany justly entitle her to commemoration in the specific name.

The habit of the plant is most like *O. anomalum*, *t.* 1423, but its fruitstalk is more elongated than even in that species, and much more so than in any other British one, except the very dissimilar *O. crispum*, *t.* 996. The leaves much resemble those of *anomalum*, and like them soon become very dark-coloured. Our *t.* 1423 was drawn from young vigorous plants. The capsule is somewhat more ovate or tumid when ripe, and the fringe essentially different in being double; the outer of eight pair of combined teeth; inner of eight inflexed bristles. Veil crenate, often split, densely covered with upright tawny hairs. Lid with a short conical beak.

2524



May 1 1819 published by J. & J. Sowerby London.

FUNARIA Templetoni.

Long-fruited Cord-moss.

CRYPTOGAMIA Musci.

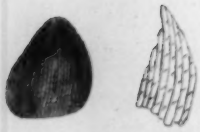
GEN. CHAR. *Caps.* obovate. *Outer fringe* of 16 oblique teeth, cohering at their tips: *inner* of 16 flat teeth. *Flowers* terminal. *Veil* beaked.

SPEC. CHAR. Stem elongated, somewhat branched. Leaves spreading, ovate, entire. Capsule obovate, tapering at the base.

DISCOVERED by our worthy friend Mr. Templeton near Belfast; and we gladly accede to the wishes of Mr. Turner, in calling it after the discoverer, especially as we have sought in vain for any thing similar, among several nondescript exotic *Funariæ* now in our possession.

This species differs widely from the only two of its genus already described as British, see *t.* 342 and 1497, in its caulescent habit, and scarcely oblique fruit, the form of which is far more slender than in those, with an elongated tapering base. The proliferous and occasionally branched stem shows this moss to be perennial. The leaves differ from *F. hygrometrica* in being expanded and nearly flat; from *F. Muhlenbergii* moreover in being entire, and, though pointed, destitute of a hair-like termination.—The fringe is quickly deciduous and very tender, nor have we had an opportunity of examining it critically. The veil is sufficiently like the rest of the genus, though not, as in the original species, quadrangular.

2525



Pl. 2525 published by J. & A. Arch, Cornhill, London

PTEROGONIUM? rotundifolium.

Round-leaved Wing-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong, from a lateral scaly sheath. *Fringe* simple, of 16 linear upright teeth. *Veil* generally hairy.

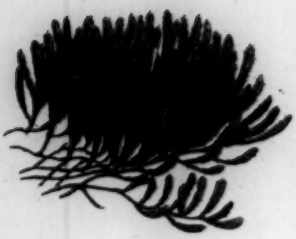
SPEC. CHAR. Stems ascending, tufted, scarcely branched. Leaves closely imbricated, roundish-ovate, obtuse, entire.

SYN. Pterogonium rotundifolium. *Turn. Mss.*

AFTER the example of Mr. Turner, we venture, by the habit alone of this moss, to presume, without much scruple, upon its genus; and at the request of that gentleman, to whom we are obliged for specimens, we publish a figure of it, even though the fructification is unknown.

The plant was discovered in the south of Ireland, by Mr. Mackay, in 1805, whether on trees, rocks, or the earth, we know not. The stems grow ascending, or nearly erect, in dense tufts, being scarcely an inch high, simple, or sometimes subdivided, swelling upwards and obtuse. The leaves are closely imbricated, roundish, or broadly ovate, obtuse, entire, of a pale but dull green, minutely and obliquely reticulated, with little or no appearance of any rib.

2526.



Marcus published by Jos. Lomb. Lane.

PTEROGONIUM? cæspitosum.

Matted Wing-moss.

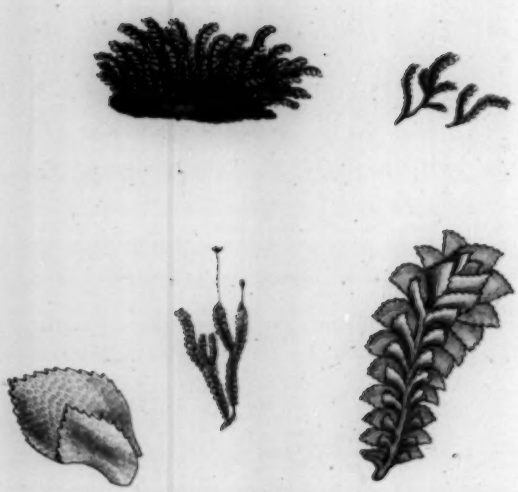
CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong, from a lateral scaly sheath. *Fringe* simple, of 16 linear upright teeth. *Veil* generally hairy.

SPEC. CHAR. Stems branched, entangled, prostrate, slender. Ultimate branches ascending, obtuse. Leaves ovate, concave; revolute at the base; minutely serrated at the summit.

FOR the same reasons as those in the foregoing page, we here exhibit another presumed species of *Pterogonium;* as little exposed to uncertainty as any can be on the score of habit, and undoubtedly nondescript.

This was gathered in Scotland, in 1810, by Mr. W. Borrer, on rocks by the river at Dulsie bridge, but destitute of fructification. The much-divided stems are entangled and prostrate, throwing up numerous ascending, simple, obtuse branches, clothed with larger leaves than those on the main stems, and of a light bright-green colour. The leaves are closely imbricated, ovate, bluntish, concave, with a short rib at their base; revolute in their lower part; finely serrated towards the point only.



Marcus pinxit et del. 4 Jul. 1 Sowerby Londin.

JUNGERMANNIA umbrosa.

Shady Jungermannia.

CRYPTOGAMIA Hepaticæ.

GEN. CHAR. Male flowers sessile. *Anthers* stalked. *Capsule* on a stalk, rising from a sheath, of 4 valves. *Seeds* attached to elastic filaments.

SPEC. CHAR. Ascending, somewhat branched. Leaves two-ranked, acute, serrated; their side-lobes convex, roundish-ovate, not half so large. Sheaths terminal, curved, compressed, abrupt, entire.

SYN. Jungermannia umbrosa. *Schrad. Samml. fasc.* 2. 5. *Hooker Brit. Jung. t.* 24.

COMMUNICATED by Mr. Turner, but without fructification, which therefore we have borrowed from Mr. Hooker.

This species is said to grow, in small dense patches, amongst other similar plants, on several Scottish and Irish mountains. The stems are from half an inch to an inch high, rising rather obliquely, and more or less branched. They are reddish, and the pale green foliage has also a similar tint here and there. The leaves are closely imbricated in two rows, like those of *complanata*, *t.* 2499, &c., and like them unequally two-lobed; but the smaller lobes, in the present species, lie uppermost. Both lobes are convex, serrated and acute, of an obliquely roundish-ovate shape, and the plant has altogether a neat braid-like appearance. Sheaths terminal, oblong, curved, with an abrupt entire margin. Schrader says it blossoms in summer.

Nunneae published by J. & Sowerby London.

JUNGERMANNIA incisa.

Jagged-leaved Jungermannia.

CRYPTOGAMIA Hepaticæ.

GEN. CHAR. Male flowers sessile. *Anthers* stalked. *Capsule* on a stalk, rising from a sheath, of 4 valves. *Seeds* attached to elastic filaments.

SPEC. CHAR. Creeping, prostrate, scarcely divided. Leaves spreading in two rows, squarish, wavy, with about three unequal, often notched, segments. Sheaths terminal, obovate, contracted and torn at the mouth.

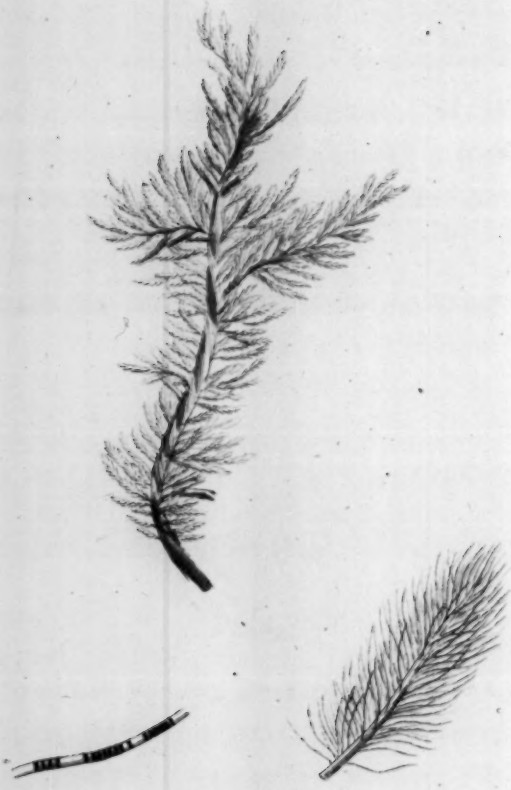
SYN. Jungermannia incisa. *Schrad. Samml. fasc.* 2. 5. *Hooker Brit. Jung. t.* 10.

J. n. 1862. *Hall. Hist. v.* 3. 59.

BY no means an uncommon kind of *Jungermannia*, especially in moist places, among Bog-moss and *Marchantiæ*.

The stems are short, creeping, mostly simple, leafy, rather thick, and swelling upward. Leaves spreading, in two ranks, the upper ones most crowded, all light green, with a singularly crisped and jagged aspect; partly clasping the stem with their broad base; their figure very irregular but in some measure square, cut into two or three very unequal and various segments, some of which are acutely notched. Sheath solitary, terminal, obovate, the mouth contracted and finely laciniated.

This is allied to *excisa, t.* 2497, but abundantly distinct.



As it was published by Jas. Sowerby London.

CONFERVA nivea.

Snowy Conferva.

CRYPTOGAMIA Algæ.

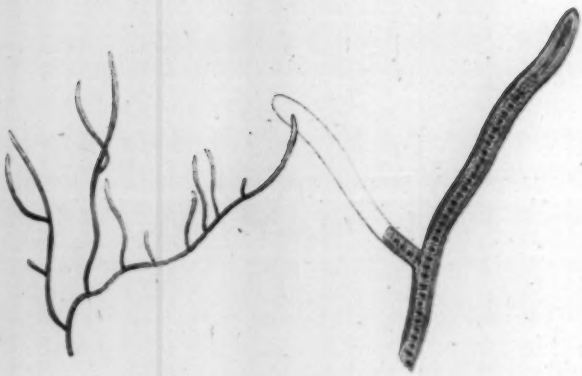
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. White, branched, slender, somewhat rigid. Ultimate branches crowded, and often obscurely whorled. Joints dark, about as broad as long.

SYN. Conferva nivea. *Dillw. Syn.* 54. *t.* C.
Byssus lanuginosa. *Willan on Sulphureous Waters*, 10. *Dillw.*

WE are obliged to William and James Backhouse, Esqrs. of Darlington for fine specimens of this *Conferva*, found growing on roots and dead leaves, in the sulphur spring at Middleton near that place, as mentioned in Dillwyn. The late ingenious Dr. Willan, it seems, has observed that hepatic gas is necessary to its growth. It appears to us moreover that there is a deposition of an earthy kind, precipitated on the plant, in consequence of its absorption of that gas, which had suspended or dissolved the earthy substance; just as *Charæ* become incrusted with calcareous matter in common hard waters. The whole plant is extremely slender, and to the naked eye appears white; but the very fine and copious ultimate branches are found, under a high magnifier, to consist of innumerable dark joints, nearly as long as broad. The incrustation usually conceals these.

2530.



CONFERVA ocellata.

Eyelet Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Tawny brown, much branched, flaccid. Branches simple, mostly turned one way, obtuse. Joints twice as broad as long, internal, with a central dot.

SYN. Conferva ocellata. *Dillw. Syn.* 60. *t.* D.

COMMUNICATED by Mr. James Backhouse, from springs on the moors near Wolsingham, Durham.

This appears to be a very rare species, Mr. Dillwyn, so conversant with most of the genus, having never seen the present species more than once. It composes dense tufted masses of a dull brown, except when held against the light, in which position they appear of a horny, or dirty orange, hue. They are of a rigid substance, and do not adhere to paper in drying. The copious branches are irregular, wavy or curved; the ultimate ones bluntish, and many of them turned one way. The greatest peculiarity of the species is, that a chain-like row of vesicles runs along the centre of the frond, each of which is marked with a central dot, probably consisting of a mass of seeds.

As it was published by J.t Sowerby London

ACHILLEA serrata.

Serrated Yarrow.

SYNGENESIA Polygamia-superflua.

GEN. CHAR. *Recept.* chaffy. *Down* none. *Cal.* ovate, imbricated, unequal. *Florets* of the radius 5 to 10, roundish, or inversely heart-shaped.

SPEC. CHAR. Leaves linear-lanceolate, sessile, downy, deeply serrated; laciniated at the base. Corymbs nearly simple.

SYN. Achillea serrata. *Retz. Obs. fasc.* 2. 25. *Ait. Hort. Kew. ed.* 1. *v.* 3. 241. *Willd. Sp. Pl. v.* 3. 2194.

Dracunculus alpinus, agerati foliis incanis. *Raii Hist. v.* 1. 344.

IN the year 1802 we received specimens of this *Achillea*, gathered wild not far from Matlock, Derbyshire, by Mr. Rupp of Manchester and Mr. Williams of Norton, near Sheffield. Being no Linnæan species, nor in any way known to us, we have kept it long unpublished; but a further search has helped us to the above synonyms. This has possibly been overlooked in England, as well as in Switzerland, for a variety of *A. Ptarmica*, *t.* 757. There is no probability of its having escaped from gardens, being scarcely known, except in a few of the most curious. The flowers expand about August, and the root is perennial. The whole herb has the habit and strong scent of the garden *A. Ageratum*, but the deeply-cut radiating base of the leaves is considerably different, and the flowers are totally unlike, those of *Ageratum* being not one fifth so large, and extremely numerous, in repeatedly compound corymbs, of a more yellow colour. The flowers of our present plant are more like *Ptarmica*, but smaller and of a yellowish hue. Willdenow reports it a native of Switzerland. Can Haller have confounded it under his n. 117 γ? We have never met with a Swiss specimen. Ray says he cultivated this species at Cambridge, having received it from London. His description cannot be mistaken.

Pl. 2532 published by J.C. Loudon, London.

ACHILLEA tomentosa.

Woolly Yellow Milfoil, or Yarrow.

SYNGENESIA Polygamia-superflua.

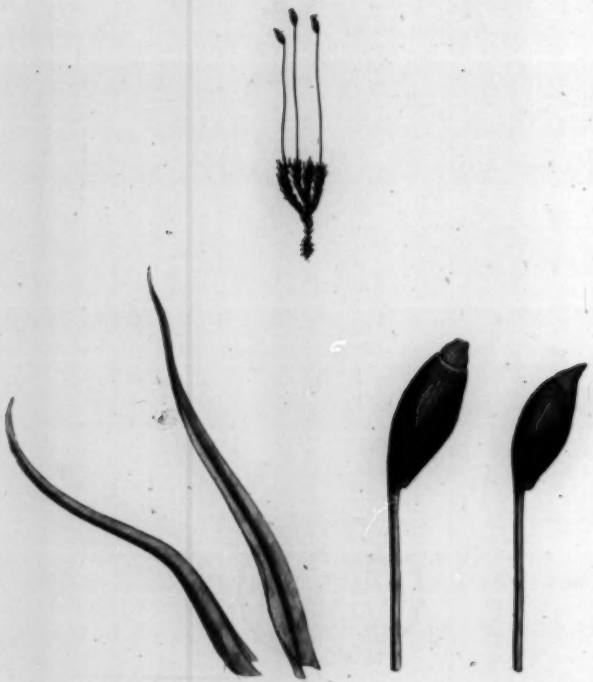
GEN. CHAR. *Recept.* chaffy. *Down* none. *Cal.* ovate, imbricated, unequal. *Florets* of the radius 5 to 10, roundish, or inversely heart-shaped.

SPEC. CHAR. Leaves doubly pinnatifid, woolly; segments crowded, linear, acute. Corymbs repeatedly compound.

SYN. Achillea tomentosa. *Linn. Sp. Pl.* 1264. *Willd. Sp. Pl. v.* 3. 2209. *Curt. Mag. t.* 498.
Millefolium luteum. *Ger. em.* 1073.

ANOTHER new *Achillea*, here presented to the British botanist, has been sent us from the west of Scotland, several years since, by Mr. Hopkirk of Paisley, near Glasgow, as well as from Ireland more recently. It grows in open sunny hilly pastures, flowering in the latter part of summer; and being frequent in Switzerland, France, Italy, and the north-eastern part of Europe, we do not question its being wild in the places reported.

This species is of humbler stature than the Common Yarrow, *t.* 758, its foliage less cut, and more woolly. The flowers are of a golden yellow, their stalks woolly, repeatedly compound and corymbose. It is a desirable plant for rock-work in gardens.



Published by Jos. Swainson, London

TRICHOSTOMUM papillosum.

Papillary Fringe-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 32 capillary, straightish teeth, approximated or united in pairs.

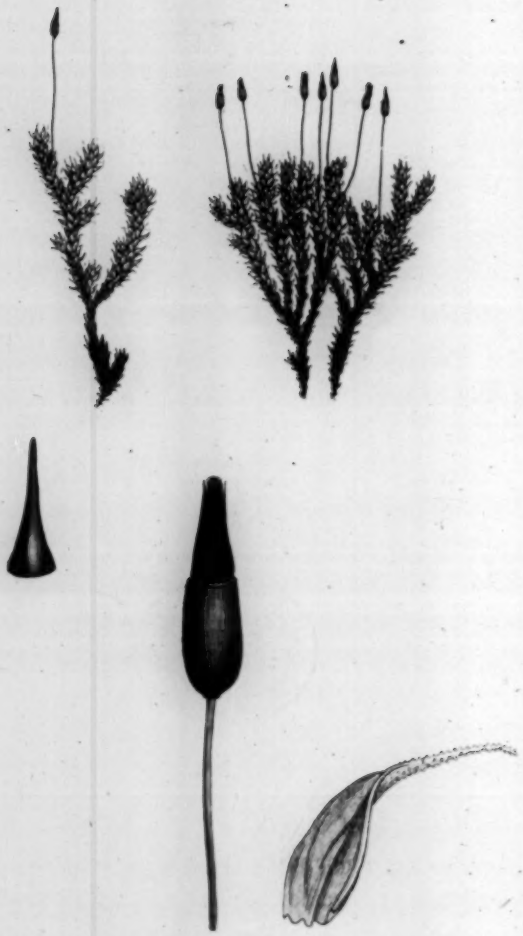
SPEC. CHAR. Leaves awlshaped, keeled. Capsule elliptical, nearly erect, gibbous on the lower side at the base. Lid conical. Stem branched.

SYN. Trichostomum papillosum. *Sm. Fl. Brit.* 1238. Bryum papillosum. *Dicks. Crypt. fasc.* 4. 12. *t.* 11. *f.* 5.

MR. DICKSON alone, as far as we have any information, has gathered the present moss, on turfy bogs in the Highlands of Scotland. We have no specimen, and are therefore obliged to use a sketch of Mr. Sowerby's, made from the plant when first found. Mr. Turner indeed has critically examined the fringe, and to him we are obliged for the information of the teeth being placed in pairs. In a poor specimen seen when the *Fl. Britannica* was written, we ascertained their number to be 32, and verified, as far as possible, Mr. Dickson's description, and Mr. Sowerby's drawing.

The stems are about half an inch high, branched, leafy, tufted, and level-topped. Leaves dark green, imbricated in every direction, moderately spreading, awlshaped, channelled, keeled, entire. Fruitstalks terminal, solitary, erect, red, an inch high, with a cylindrical sheath at the base. Capsule a little inclining, elliptical, red-brown, smooth, with a prominence or short spur at the bottom on one side. Lid conical, the colour of the capsule, scarcely one fourth so long.

2534



Apl 1.1809 published by J.& C. Sowerby London

TRICHOSTOMUM canescens.

Common Hoary Fringe-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 32 capillary, straightish teeth, approximated or united in pairs.

SPEC. CHAR. Leaves ovato-lanceolate, with a central channel, but no nerve, and a pellucid rough point. Capsule ovate, stem erect, with upright branches.

SYN. Trichostomum canescens. *Hedw. Sp. Musc.* 111. *Crypt. v.* 3. 5. *t.* 3. *Sm. Fl. Brit.* 1242. *Sibth.* 283. *Turn. Musc. Hib.* 39. *Winch v.* 1. 104.

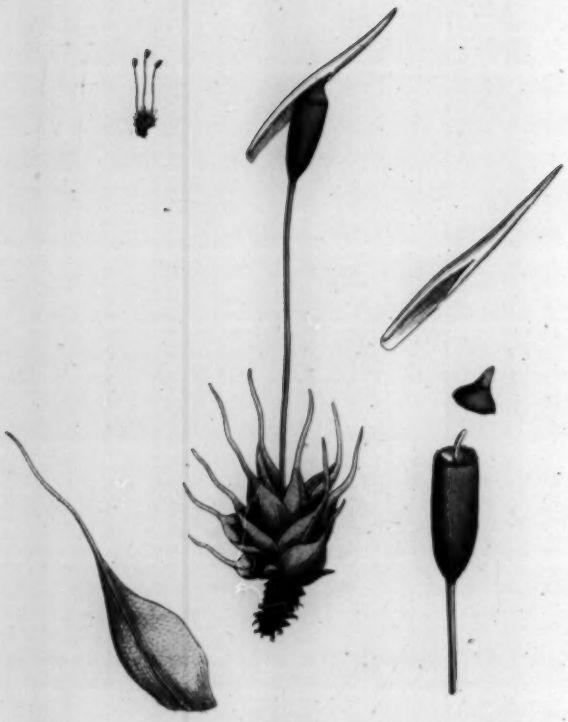
Bryum hypnoides. *Huds.* 480, *α.*

B. canescens. *Hoffm. Germ. v.* 2. 41.

B. hypnoides, hirsutie canescens, vulgare. *Dill. Musc.* 368. *t.* 47. *f.* 27 ?

B. trichoides, erectis capitulis, lanuginosum. *Raii Syn.* 97.

VERY common on open dry sandy or mountainous heaths and moors, bearing capsules in February or March, but not frequently. When moist the leafy branches are of a yellowish green; but when dry they assume, as Dillenius observes, a hoary aspect, in consequence of the pellucid rough hairs which terminate each leaf, and become, in that state, white and opaque. Hedwig points out the central channel of the leaf, which resembles a nerve, or cluster of vessels, but is not such, as a character of this species, and we find it so, though some of Dillenius's own leaves appeared to us to have an actual nerve. On the other hand, *T. ericoides*, *t.* 1991, described by all authors as having a nerve, proves to have none, (see our plate and description,) and is therefore perhaps justly considered by Hedwig as a variety of the present, differing only in its darker colour, and numerous short lateral branches ranged closely along the main shoots.



Published by Jas Sowerby, London.

TRICHOSTOMUM piliferum.

Hairy Fringe-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 32 capillary, straightish teeth, approximated or united in pairs.

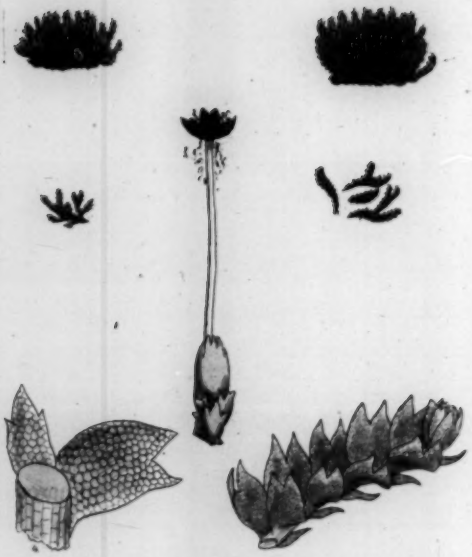
SPEC. CHAR. Leaves ovate, slightly concave, acute, hair-pointed. Capsule ovate. Stem very short.

SYN. Trichostomum piliferum. *Sm. Fl. Brit.* 1245. Bryum piliferum. *Dicks. Crypt. fasc.* 4. 10. *t.* 10. *f.* 14.

OUR learned friend Mr. Turner, in his book on Irish Mosses, p. 79, has cited this plant as the same with *Dicranum latifolium, t.* 2492. To us they appear distinct. The leaves of the present, in one of Mr. Dickson's specimens before us, as well as in his figure, are short, truly ovate, and pointed, each tipped with a very long terminal hair. The capsule moreover is shorter and broader.

This moss was found by Mr. Dickson, on shady banks, near Aberfeldy, in North Britain. The stems are very short, and grow in patches. Leaves few, of a dull green, with a hair of their own length, and a central rib. Fruitstalk central, solitary, erect, capillary, brown, twisted, rather above half an inch high. Capsule erect, ovate, short, wide-mouthed, brown and smooth. Lid short, beaked.

2536



Published by J. & J. Arch, Feb.

JUNGERMANNIA stipulacea.

Stipular Jungermannia.

CRYPTOGAMIA Hepaticæ.

GEN. CHAR. Male flowers sessile. *Anthers* stalked. *Capsule* on a stalk, rising from a sheath, of 4 valves. *Seeds* attached to elastic filaments.

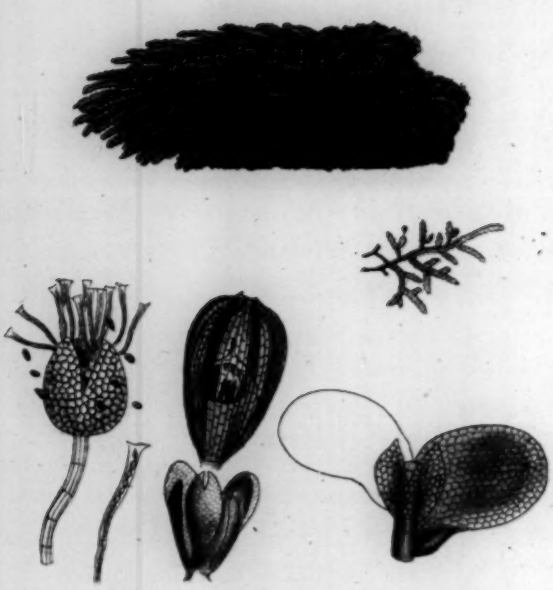
SPEC. CHAR. Creeping, prostrate, scarcely divided. Leaves in two rows, ascending, rounded, acute, with an acute notch. Scales ovate, acute, half as long as the leaves, with a tooth at each side. Sheaths lateral, obovate; their mouth contracted, plaited, bluntly toothed.

SYN. Jungermannia stipulacea. *Hooker Brit. Jung. t.* 41.

COMMUNICATED by Mr. Turner, who received Irish specimens from Miss Hutchins. Mr. G. Don has found the same species in Scotland.

It grows on shady rocks, in dense patches, resembling those of *J. incisa*, *t.* 2528, of a pale yellowish green, with a brownish tint. Each plant creeps on the ground, attached by numerous radicles, being usually quite simple, scarcely half an inch long. Some of our specimens however show a young shoot, such as Mr. Hooker has now and then observed. The leaves clothe the upper side of the stem, in two ranks, being roundish or ovate, more or less upright, entire except a terminal notch, making an acute angle, between two equal acute points. Beneath is a simple row of projecting stipulaceous scales, each nearly half the length of a leaf, ovate, acute, with a tooth at each side. The sheaths are lateral, solitary, obovate, much drawn in at the orifice, with three or four three-pointed leaves at the base.

2537.



Pl. 2537 published by J. Sowerby London

JUNGERMANNIA serpyllifolia.

Thyme-leaved Jungermannia.

CRYPTOGAMIA Hepaticæ.

GEN. CHAR. Male flowers sessile. *Anthers* stalked. *Capsule* on a stalk, rising from a sheath, of 4 valves. *Seeds* attached to elastic filaments.

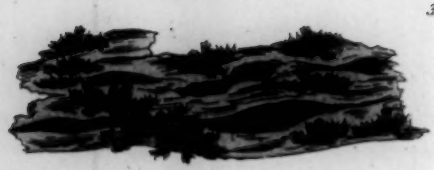
SPEC. CHAR. Creeping, slender, irregularly pinnate, wavy. Leaves spreading in two rows, unequally two-lobed, rounded, tumid at the base; side-lobe minute, involute. Scales deeply and sharply cloven. Sheaths lateral, obovate, with five angles, and a close mouth. Fruitstalk jointed.

SYN. Jungermannia serpyllifolia. *Dicks. Crypt. fasc.* 4. 19. *Hooker Brit. Jung. t.* 42.

J. minima, foliis auritis ex rotunditate acuminatis, punctatis ac veluti perforatis, floribus virescentibus, vaginâ cordiformi. *Mich. Gen.* 9. *t.* 6. *f.* 19. Lichenastrum, &c. *Dill. Musc.* 499. *t.* 72. *f.* 30.

ON the trunks of trees among mosses, not very uncommon, as it should seem from the various places in Ireland, Scotland, Yorkshire, Cumberland and Hampshire, cited by Mr. Hooker. Our specimens were gathered by Miss Hutchins, near Bantry. Dillenius only copied Micheli, with unauthorized doubts as to his accuracy.

This plant grows in densely imbricated patches, of a light green; each individual repeatedly branched and irregularly pinnate, hardly an inch long, and very slender. Leaves two-ranked, vertical, obovate, rounded, entire; with a small involute side-lobe at the slightly tumid base. Scales rather small, rounded, acute, sharply and deeply cloven. Sheaths lateral, top-shaped, five-angled, abrupt, with a close, slightly toothed orifice; their base accompanied by elongated flattened leaves. Fruitstalk jointed. Capsule pellucid, globular, the valves not spreading. Seeds and their spiral filaments enclosed in tubes, sticking to the valves, as drawn by Micheli, and in the magnified figure which we copy from Mr. Hooker.



Apl. 1823 published by J. & A. Arch, Cornhill, London.

JUNGERMANNIA calyptrifolia.

Hooded-leaved Jungermannia.

CRYPTOGAMIA Hepaticæ.

GEN. CHAR. Male flowers sessile. *Anthers* stalked. *Capsule* on a stalk, rising from a sheath, of 4 valves. *Seeds* attached to elastic filaments.

SPEC. CHAR. Creeping, branched. Leaves two-ranked, obovate, pointed, convoluted, inflated, with a squarish convoluted side-lobe. Scales linear, cloven. Sheaths lateral, abrupt, five-pointed. Fruitstalk jointed.

SYN. Jungermannia calyptrifolia. *Hooker Brit. Jung. t.* 43.

THIS species, most happily named, by Mr. Hooker, from the curious resemblance of its leaves to the *calyptra*, or veil, of a moss, was discovered by Miss Hutchins, on the base of the stems of *Ulex nanus*, *t.* 743, in heathy mountainous places near Bantry. Mr. Lyell found the same on rocks at Lowdore, Cumberland.

The stems are branched, forming small pale-green tufts about half an inch wide. Leaves indistinctly disposed in two rows, alternate, ascending, each twisted and inflated in a manner to be best understood from the figure, with a square side-lobe enveloping their base, and a remarkable terminal point. Sheaths lateral, with a pair of abrupt leaves at their base, oblong, abrupt, with five angles, each of which terminates in a prominent point at the top. Fruitstalk formed of zigzag compound joints, as in the last, with which species also the erect valves of the capsule, bearing the tubes containing the seeds and spiral filaments, agree.

Myr. engd. Published by Jas. Sowerby, London.

LICHEN Harrimanni.

Microscopic Dot Lichen.

CRYPTOGAMIA Algæ.

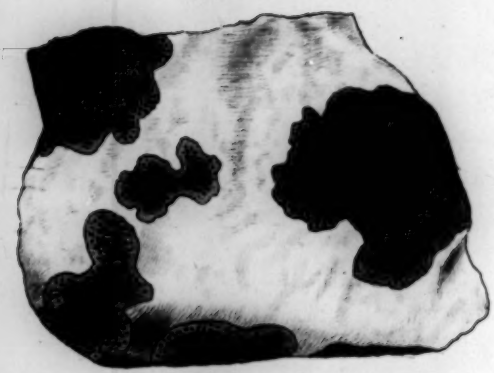
GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust tartareous, contiguous, limited, mouse-coloured, with very minute depressed dots. Tubercles minute, immersed, globose, with a prominent bordered orifice; dirty white within.

SYN. Verrucaria Harrimanni. *Ach. Lichenogr. Univ. v.* 1. 284.

WE have long ago wished to dedicate to our liberal friend, the Rev. Mr. Harriman, some one of the numerous Lichens of which he was the first discoverer, but could never obtain his consent, which probably his correspondent Dr. Acharius did not think of soliciting. We are glad that so worthy a name has become thus properly commemorated.

Mr. Harriman found the present species of *Lichen*, or, according to the Acharian system, *Verrucaria*, on hard grey calcareous rocks in the county of Durham. Its patches, though inseparable from the stone, are very distinctly limited, and visibly prominent above its surface, of a hard tartareous texture, white within, greyish or pale mouse-coloured on the outside, which is thickly besprinkled with innumerable minute depressions or dots. The tubercles are truly those of a *Verrucaria*, deeply sunk in the crust, blackish, their little bordered orifices only projecting slightly above its level.



Mazzuccapell. del. et lith. by J. & T. Bowles London

LICHEN plumbosus.

Lead-coloured Dot Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust tartareous, minutely cracked and rugged, lead-coloured, limited. Tubercles half-immersed, globose, black; pale within.

SYN. Verrucaria plumbea. *Ach. Lichenogr. Univ. v.* 1. 285.

GATHERED by Mr. W. Borrer, on limestone rocks near Chedder, Somersetshire. To him we are indebted for specimens, and for the synonym. As there has long been a *Lichen plumbeus*, we are obliged to make a small change in the specific name, until our difficulties about the genera *Verrucaria* and *Endocarpon* are removed.

This species differs sufficiently from *L. Harrimanni*, *t.* 2539, not so much in the bluer colour, as in the tessellated configuration of its crust, which moreover is destitute of impressed dots. The tubercles also are much larger, sunk only about half their depth, or a little more, in the crust. We find a distinct orifice in the centre, though Acharius says it is scarcely ever discernible.

2541.

May 1 1815 published by Jas Sowerby London

LICHEN pallidus.

Pale-leaved Dot Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Frond leafy, somewhat imbricated, lobed, notched, pale greenish grey; slightly spongy and black beneath; the outermost lobes naked and pale on the under side. Tubercles immersed, black.

SYN. Endocarpon pallidum. *Ach. Lichenogr. Univ. v.* 1. 301.

BROUGHT from Ireland by Sir Thomas Gage, Bart. It grows on rocks covered with a thin coat of earth, and composes rather broad, irregular, but not much interrupted, patches of small leafy leathery fronds, whose round, crenate, wavy lobes lie over each other, spreading gradually from the centre. Their under side is at first smooth and whitish, but the black spongy substance, by which the middle of the plant is attached underneath, gradually spreads, though Dr. Acharius observes it to be free from fibrous radicles. That author appears to have been but imperfectly acquainted with the tubercles. We find them black, nearly globular, though a little depressed at the top, which is nearly on a level with the surface of the frond into whose substance they are sunk. The colour of the frond itself is a light greenish grey, prone to assume a tawny hue, like other neighbouring species.

Published by J.C. Loudon, London

ULMUS major.
Dutch Elm.

PENTANDRIA Digynia.

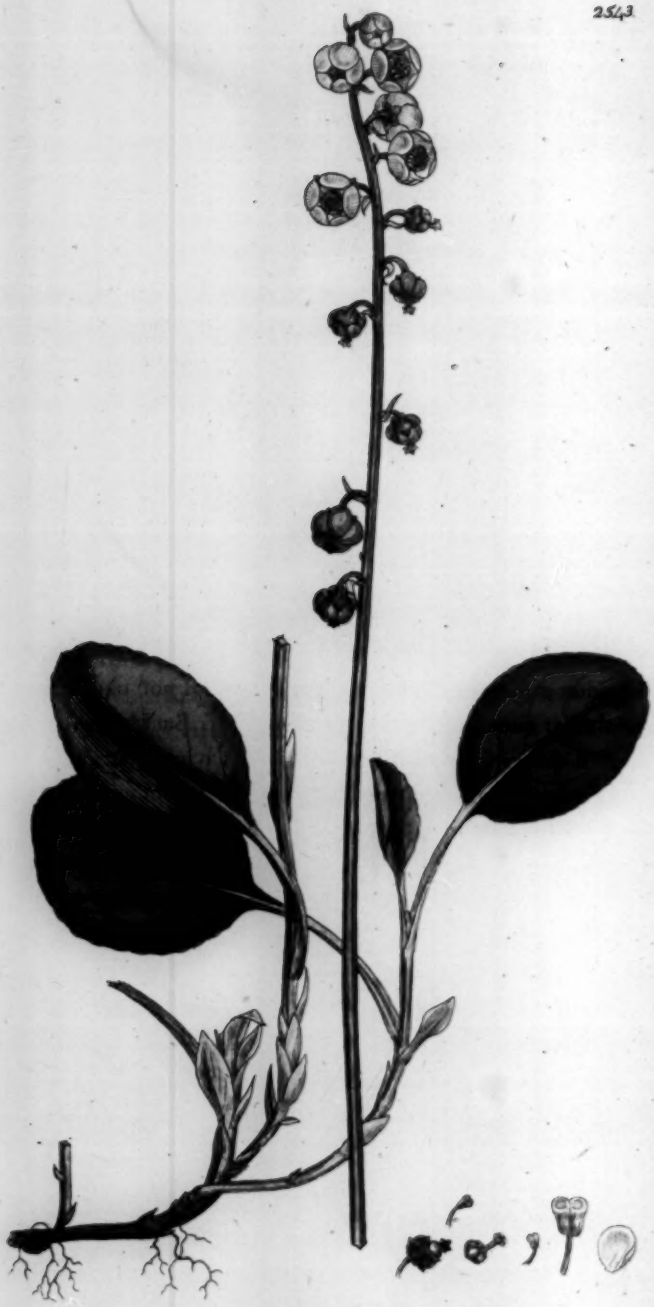
GEN. CHAR. *Cal.* 4- or 5-cleft, inferior, permanent. *Cor.* none. *Capsule* membranous, compressed, nearly flat, with 1 *seed.*

SPEC. CHAR. Leaves unequally, rather bluntly, serrated, rough, unequal at the base. Flowers nearly sessile, four-cleft, with four stamens. Fruit obovate, naked, slightly cloven.

SYN. Ulmus hollandicus. *Mill. Dict. ed.* 8. *n.* 5.
U. major hollandica, angustis et magis acuminatis samaris, folio latissimo scabro. *Pluk. Alm.* 393.

WHETHER this Elm ought to be considered as a British native, may be doubtful. It occurs sometimes in hedges, though Miller says it was brought from Holland in King William's reign, and, being recommended for its quick growth, was a fashionable tree for hedges in gardens, but afterwards fell into disuse. He adds that "the wood is good for nothing, so it is almost banished this country."

We had confounded this species with our *suberosa*, *t.* 2161; but Mr. E. Forster, to whom we are obliged for specimens, is convinced of its being very distinct, though intermediate between that and *montana*, *t.* 1887. The broad rough bluntly serrated leaves, and the fruit, are most like the latter; but the branches spread widely in a drooping manner, and their bark is extremely rugged and corky, much more so than in our *suberosa*. The latter however is certainly Ehrhart's plant, and consequently, we presume, Willdenow's. The flowers in the present are nearly sessile, with four blunt segments, and as many stamens, at least in all we have seen.



May 1.1813 published by J.& J. Sowerby London

PYROLA rosea.

Rose-coloured Winter-green.

DECANDRIA Monogynia.

GEN. CHAR. *Cal.* deeply five-cleft. *Pet.* 5. *Caps.* superior, of 5 cells, bursting at the angles. *Seeds* numerous. *Anthers* with 2 pores.

SPEC. CHAR. Stamens regularly inflexed. Style straight. Cluster of many drooping flowers. Stalk straight, quadrangular. Petals rounded, obtuse.

WE are obliged to James Backhouse, Esq. of Darlington for specimens and drawings of this *Pyrola*, found, flowering in July, in Hyndon gill, near Cockfield, Durham, and not uncommon in most similar situations in that county. Mr. Backhouse observes that "it differs from *media*, *t.* 1945, in having a straight style, only half the length of that species; a stem without any twist, dark brown, with four angles, one of which is nearly obsolete; flowers at least one fifth smaller, and of a light pink. The stigma is large, and five-lobed. From the figure of *P. minor*, *t.* 158, it differs in having drooping globular flowers, and the petals and leaves shaped as in *media*."

We confess our doubts whether this species has not been confounded, even by Linnæus, with *P. minor*, nor have we perhaps escaped this error, into which the straight short style may have led botanists in general, without their examining further. Yet our *t.* 158, if the form of the petals and posture of the flowers be correct, cannot have been taken from the present species. For the exactness of the present figure we can vouch, and shall be obliged to any of our correspondents, who have access to the wild plants, to determine whether the real *minor* agrees with our *t.* 158, or whether it still remains unpublished by us. Our dried specimens have excited our scruples, but cannot remove them.

B.R. GEO. III.

May 1812 published by J. & J. Sowerby, London.

XANTHIUM strumarium.

Burweed, or Small Burdock.

MONOECIA Pentandria.

GEN. CHAR. Male, *Common Calyx* imbricated. *Florets* of one petal, funnel-shaped, five-cleft. *Receptacle* chaffy.

Female, *Calyx* two-leaved, two-flowered. *Cor.* none. *Drupa* dry, muricated, cloven. *Nut* of 2 cells.

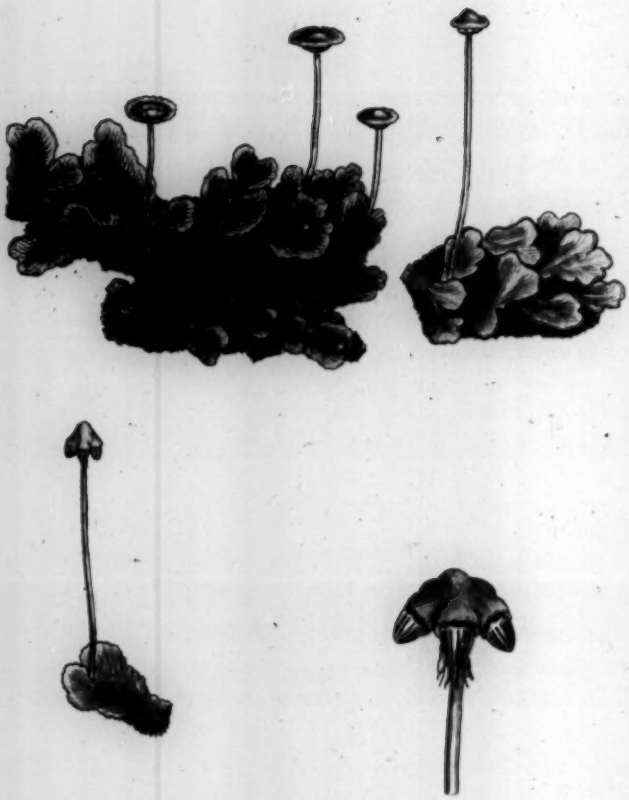
SPEC. CHAR. Stem without thorns. Leaves heart-shaped; three-ribbed at the base.

SYN. Xanthium strumarium. *Linn. Sp. Pl.* 1400. *Sm. Fl. Brit.* 1017. *Huds.* 418. *With.* 283. *Hull ed.* 2. 278. *Fl. Dan. t.* 970.

X. seu Lappa minor. *Raii Syn.* 140.

Bardana minor. *Ger. em.* 809.

THIS plant, though it has been found in several places to the south of London, is so rare that we have been forced to content ourselves with garden specimens. It requires a rich, moist, or dunghill, soil, where it produces its inelegant blossoms in August and September, and is chiefly remarkable for the seed-vessels, which appear afterwards in numerous axillary tufts, covered with hooked spines. These attach themselves to the coats of animals, like the heads of the real Burdock, *Arctium*, see *t.* 1228, 2478; which circumstance, added to the broad roughish leaves, three-ribbed at their base, are enough to excuse the application of the same English name to two plants so different in important characters. Yet the *Xanthium* is one of those ambiguous genera, whose male flowers are compound, though not syngenesious, and whose female ones are of so different a structure, as abundantly to justify, and indeed to render indispensable, the preservation of the Linnæan classes *Monoecia* and *Dioecia*.



May 1.1832 Published by J.C. Sowerby London.

MARCHANTIA androgyna.

Four-lobed Marchantia.

CRYPTOGAMIA Hepaticæ.

GEN. CHAR. Male, *Calyx* salver-shaped, with numerous *anthers* imbedded in its disk.
Female, *Cal.* peltate, flowering beneath. *Capsules* bursting at their summit. *Seeds* attached to elastic fibres.

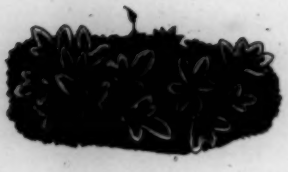
SPEC. CHAR. Calyx of the female flowers hemispherical, half four-cleft, of four cells.

SYN. Marchantia androgyna. *Linn. Sp. Pl.* 1605. *Dicks. Crypt. fasc.* 2. 17. *H. Sicc. fasc.* 4. 21. *With.* 886. *Hull.* 277. *Sm. in Rees's Cyclop. n.* 7.
M. quadrata. *Scop. Carn. ed.* 2. 355. *t.* 63.
Hepatica minor angustifolia, capitulo hemisphærico. *Mich. Gen.* 3. *t.* 2. *f.* 3.
Lichen pileatus angustifolius dichotomus. *Dill. Musc.* 520. *t.* 75. *f.* 3.

MR. DICKSON has gathered this species, unknown to preceding British botanists, on wet rocks in Scotland. We found it in that country in 1782, and have since received specimens from the Rev. Dr. Stuart.

The fronds are narrower than in our other species, see *t.* 210, 503, 504; but we find them not so linear as Micheli's figure, and that of Dillenius, express. The essential difference consists in the female calyx being, not, as Linnæus says, entire at the edge, but divided half way into four lobes, each lobe embracing a singularly prominent case, containing several capsules, and opening by numerous longitudinal chinks. At least such is their structure in a Swiss specimen, represented separately in our plate. The Scottish ones are not enough advanced perhaps to show the same thing, yet we find no other difference. Dillenius has engraved a Jamaica specimen, sent him by P. Collinson.

2546.



May 1 1797 Published by J.F. Stanley Leeds

RICCIA glauca.

Glaucous Riccia.

CRYPTOGAMIA Hepaticæ.

GEN. CHAR. Male, scattered warts?

Female, *Germen* globose, sunk, with the *style*, in the frond. *Capsule* exposed, globose, crowned with the *style*, of one cell. *Seeds* numerous, elliptical.

SPEC. CHAR. Leaves smooth, channelled, two-lobed, bluntish, glaucous. Capsules towards the base. Seeds pointed at each end.

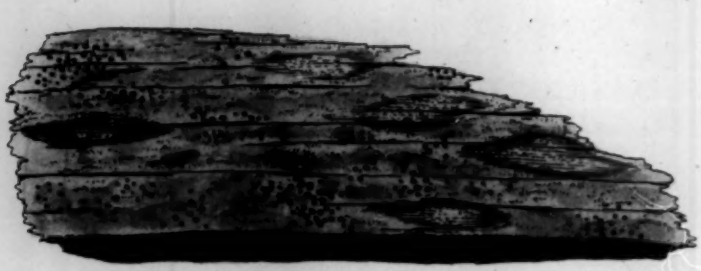
SYN. Riccia glauca. *Linn. Sp. Pl.* 1605. *Huds.* 522. *With.* 887. *v.* 1. 391. *t.* 16. *f.* 76—80. *Hull.* 283. *Relh.* 443. *Sibth.* 314. *Hedw. Theor.* 116. *t.* 29. *Schmid. Ic.* 170. *t.* 44. *f.* 1.

Lichen, sive Hepatica, foliis crassis, rutæ murariæ, aut chamædryos foliis laciniatis quodammodo similibus. *Raii Syn.* 116.

L. minimus, foliis venosis, bifariàm vel trifariàm se dividendo progredientibus. *Dill. Musc.* 533. *t.* 78. *f.* 10.

FOUND on sandy ground, either heathy or cultivated, in the winter and spring. The fronds form roundish patches, conspicuous by their glaucous hue. Their substance is thick and rather fleshy, and the under side is fixed firmly to the earth by fibrous radicles. Each leaf is usually divided deeply, and the segments bluntly two-lobed. A broad furrow runs along the upper side, in which the capsules lie, at first deeply imbedded; but as they ripen they burst through the skin, and display an innumerable quantity of minute black seeds, which Hedwig found to be pointed at each end. The same great botanist observed powdery warts on the plant, in an earlier state, which he presumed to be male blossoms.

2547.



May 1813 published by J. Sowerby London

LICHEN dubius.

Doubtful Board Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

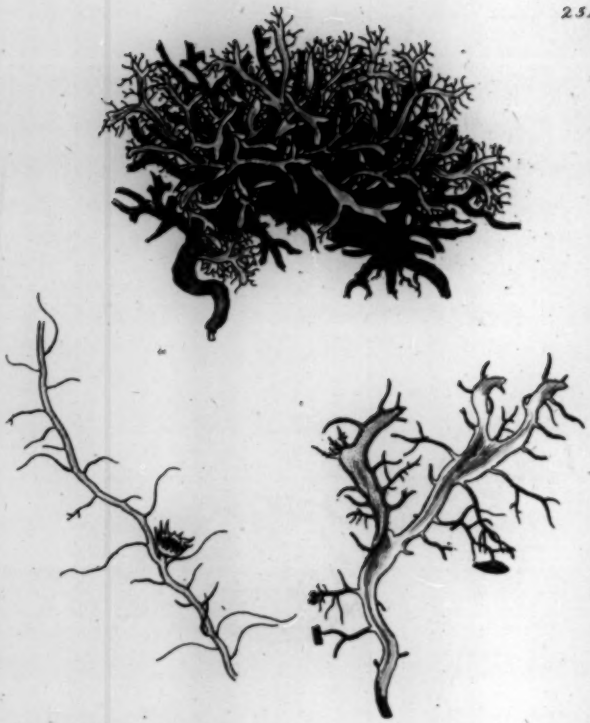
SPEC. CHAR. Crust leprous, pale brownish grey, indeterminate. Tubercles black, convex, slightly immersed in the crust; bordered when young.

SYN. Lecidea dubia. *Turn. and Borr. Lich. Brit. Mss.*

COMMON on boarded buildings, though hitherto overlooked and undescribed, unless it may be the *Lecidea aitema* of Acharius's *Lich. Universalis*, of which Mr. Borrer, to whom we are obliged for calling our attention to the plant, has some suspicion. We confess that we have often passed over this minute production, chiefly upon pales or boards of deal, in exposed situations in Norfolk, as well as around London.

The crust consists of minute, but elevated and compound, granulations, forming indeterminate confluent patches, paler and more grey than those of *L. querneus*, *t.* 485, which this species otherwise most resembles. The minute clustered tubercles however are quite black externally, though brown when scraped or cut, and have when young a very evident raised black border.

2548



May 1 1803 published by J. & C. Sowerby London

LICHEN leucomelos.

Black-haired Lichen.

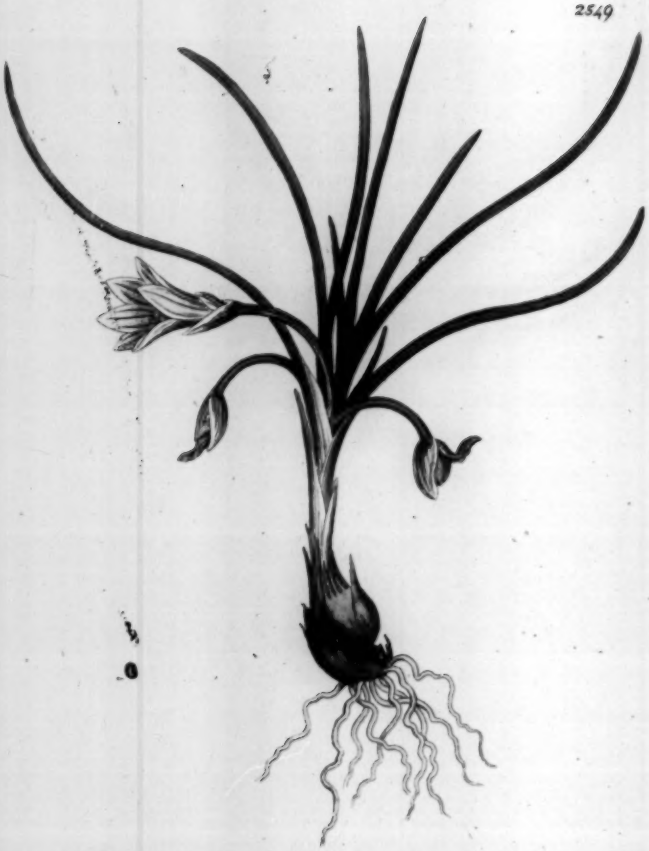
CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, membranous, spreading, smooth, white on both sides; channelled and powdery beneath: segments linear, fringed with long, black, very slender hairs. Shields stalked, blueish-black, with a white radiating border.

SYN. Lichen leucomelos. *Linn. Sp. Pl.* 1613. *Ach. Prodr.* 181. *Swartz. Obs.* 407. *t.* 11. *f.* 3.
Lichenoides angustifolium planum, crinibus nigris. *Dill. Musc.* 156. *t.* 21. *f.* 50.
Parmelia leucomela. *Ach. Meth.* 256.

DISCOVERED by Mr. W. J. Hooker at Babbicombe in Devonshire last February. This species had never before been met with in Britain, but is a native of the West Indies, and of St. Helena. The fronds grow in dense lax tufts, spreading amongst thyme, &c. in heathy places, and are known by their generally very pure white colour and great smoothness above, contrasted with their remarkably long, slender, coal-black, simple or branched, marginal hairs. Sometimes there is a grey or smoky tinge. The breadth of the segments varies much. The under side is channelled and mealy, always snow-white. The elegant shields were not found by Mr. Hooker. We have them on specimens gathered by Mr. Menzies in St. Helena. They are lateral, scattered, on short stalks; the disk flat, greyish, surrounded with a white, leafy, radiating margin, sometimes bearing black hairs like those of the frond.



July 1. 1803 published by Jos. Sowerby, London

IXIA Bulbocodium.

Dwarf Ixia.

TRIANDRIA Monogynia.

GEN. CHAR. *Cor.* in six deep equal segments, superior. *Stigma* thread-shaped, three-cleft. *Sheath* of two valves.

SPEC. CHAR. Stalk short, mostly single-flowered. Leaves linear, channelled. Segments of the stigma deeply divided.

SYN. Ixia Bulbocodium. *Linn. Sp. Pl.* 51. *Jacq. Ic. Rar. t.* 271. *Coll. v.* 3. 265. *Sm. Fl. Græc. Sibth. v.* 1. 26. *t.* 36.

Trichonema Bulbocodium. *Ker in Ann. of Bot. v.* 1. 223. *Ait. Hort. Kew. ed.* 2. *v.* 1. 82.

WILD specimens of this plant from the island of Guernsey were sent long ago by Mr. Gosselin to Mr. Dickson; and bulbs transmitted by the same accurate investigator to Sir Joseph Banks, last year, have produced perfect plants in several gardens. From the above, compared together, our figure is taken.

This plant grows on dry grassy sandy hillocks, flowering in the spring. The root is a solid bulb, like the kernel of a hazel-nut, producing offsets from the base, enfolded in torn membranous sheaths. Leaves several, radical, spreading in a curved form, linear; channelled above; sheathing at the base. Flower-stalk solitary, much shorter than the leaves, recurved, bearing one or two flowers in a wild state, in a garden often more. The corolla is purplish, ribbed, sometimes larger than in our figure, and varying to white or yellow, at least in the south of Europe.

July 1.1832 published by J.C. Loudon London

LAMIUM maculatum.

Spotted Dead-nettle.

DIDYNAMIA Gymnospermia.

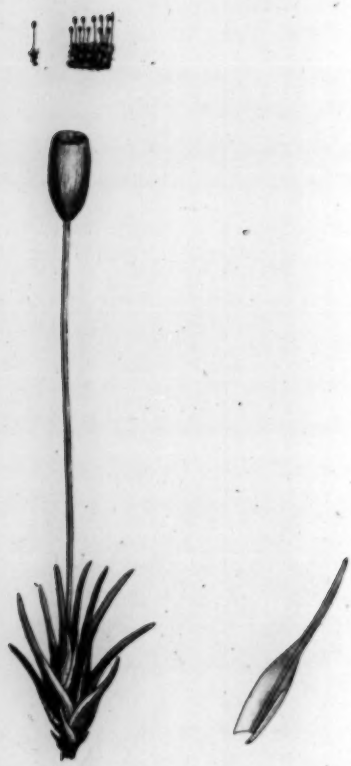
GEN. CHAR. *Cal.* 5-cleft, its teeth awl-shaped, spreading. Upper lip of the *Corolla* undivided, vaulted; lower 2-lobed; orifice inflated, toothed at each side.

SPEC. CHAR. Leaves heartshaped, pointed, deeply serrated. Whorls ten-flowered.

SYN. Lamium maculatum. *Linn. Sp. Pl.* 809. *Ait. Hort. Kew. ed.* 2. *v.* 3. 393.

FOUND interspersed with *L. album*, *t.* 768, on a bank in a lane near Redland Court not far from Bristol, by Mrs. Vaughan, to whom we are obliged for fresh wild specimens. We formerly gathered the same about Bayswater, but suspected it to be the outcast of some botanic garden. It is perennial, flowering in April, and is distinguished in the winter and early spring by the large and elegant white spots, which render the radical leaves nearly as beautiful and conspicuous as those of a *Cyclamen*. The stem-leaves have scarcely any traces of these spots, and they, as well as the whole habit of the plant, accord much with *L. album*; but the flowers are only half as many in a whorl, and of a deep crimson, beautifully speckled. There is no question of the species being perfectly distinct, and we presume it must be truly wild in the place above mentioned. Throughout the south of Europe it mostly takes place of the *album*, so common with us.

2551



July 1 1829 published by J.G. Loudon Londn

GRIMMIA pusilla.

Dwarf Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Stem scarcely any. Leaves bristle-shaped. Capsule ovate, erect, smooth, dilated at the mouth.

SYN. Grimmia pusilla. *Roth. Germ. v.* 3. 147. *Sm. Fl. Brit.* 1184.

Weisia pusilla. *Hedw. Sp. Musc.* 64. *Crypt. v.* 2. 78. *t.* 29, A.

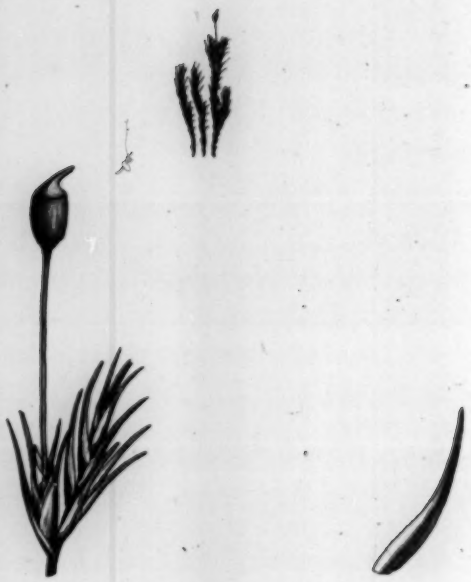
Bryum paludosum. *Linn. Sp. Pl.* 1584. *Huds.* 478. *With.* 813. *Hull.* 257.

B. trichodes acaulon palustre minimum, setis et capsulis brevissimis. *Dill. Musc.* 387. *t.* 49. *f.* 53.

SOME doubts having been started, though perhaps without reason, respecting the specimens of this rare little moss found near Ambleside, as noted in the *Flora Britannica*, we have procured the certain plant of Dillenius and Hedwig from Mr. Dickson. It grows on mountainous bogs in Wales and the north of England, bearing fruit early in the spring.

This is one of the least of mosses, and is presumed to be annual. The stem is so short as to be hardly discernible. Leaves several, light green, turning brownish with age, moderately spreading, bristle-shaped, dilated at the base, with a strong midrib. Fruitstalk central, solitary, erect, slender, pale, seldom quite straight. Capsule erect, ovate, smooth and even, pale brown when ripe. Our specimens have neither fringe nor lid. The former is figured by Hedwig with sixteen red spreading teeth; the latter is awlshaped, curved, about as long as the capsule.

2552.



July 1.1813 published by J.de Sowerby London.

DICRANUM hyperboreum.

Northern Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem somewhat branched. Leaves crowded, capillary, straight. Capsule smooth, ovate, upright. Lid oblique.

SYN. Dicranum? hyperboreum. *Sm. Fl. Brit.* 1227.
Bryum hyperboreum. *Dicks. Crypt. fasc.* 3. 9. *With.* 828. *Hull*, 261. *Fl. Dan. t.* 538. *f.* 1.

GATHERED by Mr. Dickson on the alpine rocks of Ben Nevis in Scotland. We are favoured by him with a specimen, which enables us to correct and improve the slight mention of this plant in *Fl. Brit.*

The stems are occasionally branched, leafy, reddish, composing dense tufts. Leaves numerous, crowded, pale green, straight, slender-awlshaped, with a strong rib, entire; their base a little dilated. Fruitstalk various in length, probably according to its age, erect. Capsule ovate, short, even, with a very oblique lid about its own length. The fringe being as yet unexamined, the genus still remains doubtful, but the analogy of other species is greatly in favour of that we have adopted.

Figures published by G. & S. Sowerby, London.

HYPNUM lætè-virens.

Bright-green Feather-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* ovate-oblong, from a lateral scaly sheath. *Outer fringe* of 16 teeth, dilated at the base: *inner* a variously-toothed membrane. *Veil* smooth.

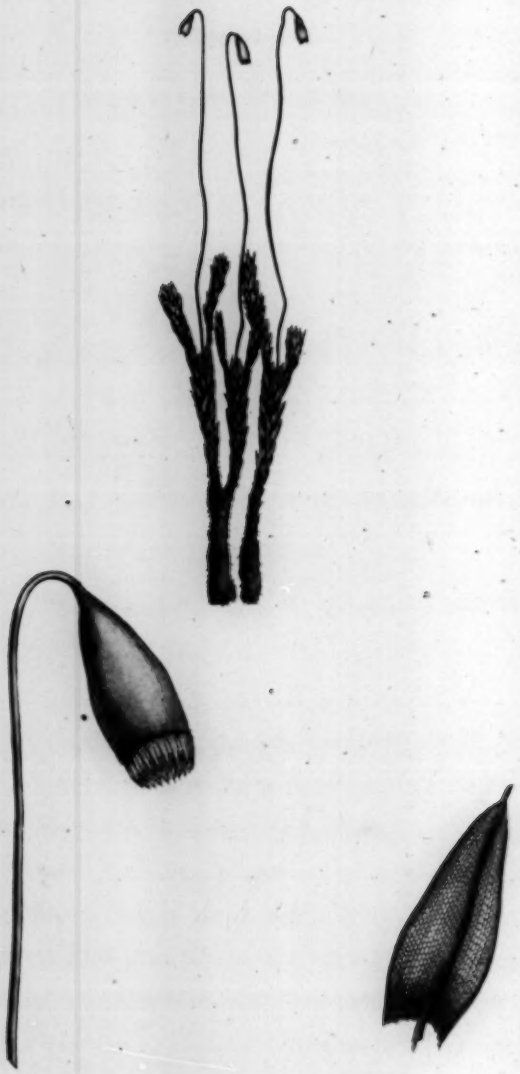
SPEC. CHAR. Stem threadshaped, creeping. Branches scattered, nearly simple. Leaves ovate, acute, finely serrated, single-ribbed. Lid flattish.

SYN. Hypnum lætè-virens. *Sm. Fl. Brit.* 1290. *Turn. Musc. Hib.* 149.

H. rotundifolium. *Dicks. Crypt. fasc.* 2. 10; excluding the synonym. *With.* 845. *Hull.* 268.

FOR this we are also indebted to Mr. Dickson, who gathered it about the roots of trees in some Scottish woods. Dr. Scott is said to have collected the same in Ireland. We cannot adopt the synonym of Scopoli's *rotundifolium*, though there is a considerable likeness in his figure to ours; but his lid is pointed, ours flat.

The stems are slender, creeping and scaly, throwing up numerous, simple or divided, short, nearly lanceolate branches. Leaves imbricated in two rows, bright green, ovate, acute, finely serrated, with a fine central rib, scarcely visible to the end. Fruitstalk short, tawny. Sheath-leaves with a twisted serrated point, but no rib. Capsule ovate, inclining, more or less curved. Fringe brown. The lid is wanting in our present specimen; but we have found it, in another authentic one in Mr. Turner's possession, nearly flat, with a small central prominence.



July 1 1830 published by S.T. Curtis, Strand London.

BRYUM cubitale.

Elbow-shaped Thread-moss.

CRYPTOGAMIA Musci.

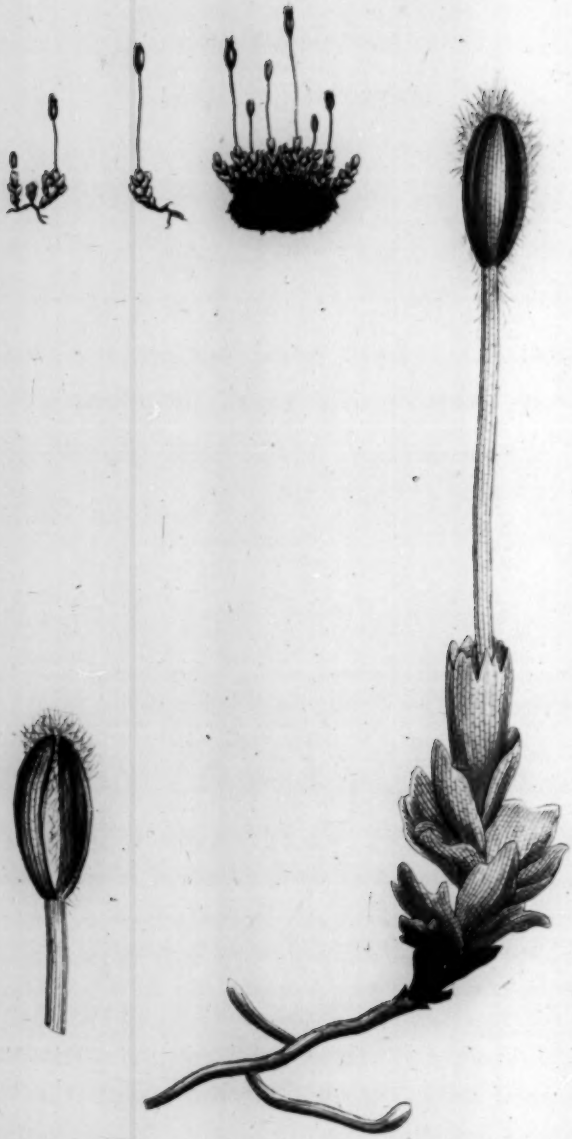
GEN. CHAR. *Outer fringe* of 16 teeth, broad at the base; *inner* a toothed membrane. *Flowers* terminal. *Capsule* ovate-oblong, smooth. *Veil* smooth.

SPEC. CHAR. Stem ascending, somewhat branched. Leaves lanceolate, entire, decurrent. Fruitstalk bent. Capsule clubshaped, pendulous.

SYN. Bryum cubitale. *Dicks. Crypt. fasc.* 2. 9. *t.* 5. *f.* 2. *Sm. Fl. Brit.* 1364. *With.* 840. *Hull.* 267.

THIS large species of *Bryum*, distinguished by a singular bending near the base of its fruitstalks, was gathered by Mr. Dickson on moist banks near Aberfeldy in North Britain. We know of no other botanist who has observed it.

The habit approaches that of *bimum*, *t.* 1518, the stems being two or three inches high, clothed with rusty down, leafy, and irregularly branched. Leaves spreading, bright green, pellucid, reticulated, with a strong red mid-rib, and a thickened entire margin of the same hue. The apex is crowned with a minute point; the base is slightly decurrent. Fruitstalks solitary at the top of last-year's shoots, three or four inches long, of a shining tawny brown; bent near the bottom. Capsule pendulous, club-shaped, tapering at the base, pale brown, smooth, red at the margin, with a light-yellow fringe.



Pub. as published by J.& C. Sowerby, London

JUNGERMANNIA Hookeri.

Hookerian Jungermannia.

CRYPTOGAMIA Hepaticæ.

GEN. CHAR. Male flowers sessile. *Anthers* stalked. *Capsule* on a stalk, rising from a sheath, of 4 valves. *Seeds* attached to elastic filaments.

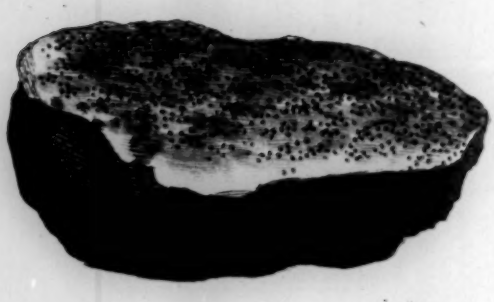
SPEC. CHAR. Erect, scarcely branched. Leaves imbricated, concave, wavy, two- or three-lobed; the lower ones undivided. Sheaths terminal, cylindrical, jagged. Elastic filaments turned upwards, crowning the open capsule.

FOUND hitherto only by C. Lyell, Esq. to whom we are obliged for this interesting communication, and who, with the consent of Mr. Hooker, gave it the above name, the species being allowed by him to be unquestionably new.

It appears to be extremely rare, growing intermixed with *J. multifida*, *t.* 186, at the side of a ditch near the private road from Cadnam to Paultons in the New Forest.

The root is creeping, consisting of fleshy branching fibres. Stem simple or branched, erect, of humble growth, surrounded on all sides by loosely imbricated concave leaves, which greatly vary in figure; the lower ones are nearly oval, and entire; upper larger, frequently obovate, pointed, their margin undulated and lobed or bluntly toothed. Anthers axillary. Sheath terminal, cylindrical, torn at the mouth. Fruitstalk rather thick. Capsule oblong, pale brown, bursting into four valves, which, as Mr. Lyell remarks, "frequently appear as but two, their tips being held together by the elastic filaments, which turn upwards, and form a tuft on the open capsule."—These specimens were gathered December 21, 1812.

2550



Published by the Geological Society, London.

SPILOMA tuberculosa.

Warty Spiloma.

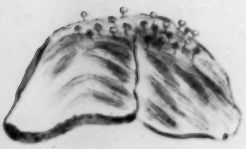
CRYPTOGAMIA Algæ.

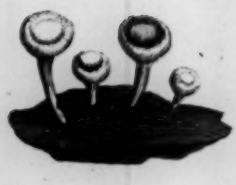
GEN. CHAR. *Receptacles* shapeless, without a border, powdery, in an uninterrupted crust.

SPEC. CHAR. Crust calcareous, greyish-white. Receptacles scattered, somewhat confluent, unequal, elevated, granulated, black.

DISCOVERED by Mr. William Robertson of Newcastle, on sandstone rocks in that neighbourhood, as well as in various parts of Northumberland and Durham, where it is far from rare. "Mr. Turner has determined it to be certainly a *Spiloma*, and quite new." We without hesitation accede to this determination.

The crust is uninterrupted, running closely over the stone, but of a calcareous nature, greyish-white externally, but internally green when cut or rubbed, as in many Lichens. Receptacles sessile, not immersed, copiously scattered over the surface, various in size, often approximated or confluent, consisting of black tumid granulations, intermixed with some appearance of a grey powder. When cut vertically they are internally green like the crust.





Curtis published by S. Curtis, London.

CALICIUM cantherellum.

Cinnamon-headed Calicium.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* capitate, stalked, totally different in substance and colour from the crust, with a border of their own substance; disk powdery.

SPEC. CHAR. Crust very thin, white, powdery. Receptacles lenticular, pale reddish brown, clothed with white powder; their stalks slender, powdery, at length naked and brownish.

SYN. Calicium cantherellum. *Ach. Meth.* 96.
C. peronellum. *Ach. Meth.* 96. *Winch v.* 2. 42.
C. pallidum. *Pers. in Ust. Ann. fasc.* 7. 20. *t.* 3. *f.* 1, 2.
Lichen cantherellus. *Ach. Prodr.* 85.

MR. WINCH is the only British writer who mentions this species, as found on decayed wood, near Eggleston, Durham. Nothing can be more distinct, from all we have hitherto figured of the same genus. The crust is white, powdery, or, as Persoon says, downy, but very thin and evanescent. Stalks ascending, not very slender, of a light red brown, clothed with white deciduous powder. Heads convex above and below, but not globose, their disk of a light reddish brown, or pale cinnamon-colour, clothed at first with copious, dense, white powder, which after a while disappears.

We unite without scruple two species of Acharius, on the authority of specimens sent by himself, and in conformity to a hint of his own in the *Methodus*.

Pub. as directed by Jas. Sowerby, London.

MYOSOTIS arvensis.

Field Scorpion-grass.

PENTANDRIA Monogynia.

GEN. CHAR. *Cor.* salver-shaped, 5-cleft, slightly notched; its orifice closed with concave valves.

SPEC. CHAR. Seeds smooth. Leaves oblong. Branches spreading. Clusters many-flowered, without bracteas; their lower stalks axillary and remote. Calyx ovate, with spreading incurved bristles.

SYN. Myosotis arvensis. *Roth. Germ. v.* 2. 222. *With.* 225. *Sibth.* 68. *Abbot.* 40. *Willd. Sp. Pl. v.* 1. 747.

M. scorpioides arvensis. *Linn. Sp. Pl.* 188. *Huds.* 78. *Sm. Fl. Brit. α.* 212. *Ehrh. Herb.* 41. *Beitr. v.* 5. 176.

M. scorpioides hirsuta. *Raii Syn.* 229.

COMMON in dry fields, and on sunny sandy banks, flowering early in Summer.

The accurate observations of Mr. W. Borrer, and a comparison of them with those of preceding botanists, have enabled us still further to correct the British history of this genus, and to define all the four supposed varieties of *M. scorpioides* as distinct species, besides describing a new one in *t.* 2559.

The present has an annual root. Stem divided from the bottom into wide-spreading branches. Stem-leaves more tapering at their base than in the other species. Clusters long; very lax in their lower part, the lowest flowerstalk, and sometimes several more, axillary, and becoming remarkably distant as the upper flowers are developed. Calyx ovate, clothed with numerous spreading hooked bristles. Corolla palish purple before it expands, then sky-blue, its valves sunk in the tube, which is longer in proportion than that of *M. palustris.* See *t.* 1973; and substitute the following synonyms and characters at

tab. 480, *fig.* 1.

MYOSOTIS versicolor.

Yellow and blue Scorpion-grass.

SPEC. CHAR. Seeds smooth. Leaves oblong. Branches ascending. Clusters many-flowered, on long naked stalks, without bracteas. Calyx ovate, with spreading incurved bristles.

SYN. Myosotis scorpioides β. *Sm. Fl. Brit.* 212, with the synonyms.

M. scorpioides collina. *Ehrh. Herb.* 51. *Beitr. v.* 5. 177.

FOUND in dry sandy places, and in somewhat boggy meadows. Flowers yellow when they first expand; then blue.

2554

Published by J. Sowerby, London.

MYOSOTIS rupicola.

Rock Scorpion-grass.

PENTANDRIA Monogynia.

GEN. CHAR. *Cor.* salver-shaped, 5-cleft, slightly notched; its orifice closed with concave valves.

SPEC. CHAR. Seeds smooth. Leaves oblong; the radical ones on long footstalks. Clusters many-flowered, without bracteas. Calyx divided above half way down, its hairs copious, spreading, and elongated.

WE have long ago received, from the Highlands of Scotland, specimens of this plant, gathered there by Mr. G. Don, the late Mr. J. Mackay, and other friends. Mr. W. Borrer found it abundantly on the rocks of Ben Lawers, and has pointed out the marks by which we have ventured to establish it as a species.

The root appears to be perennial, as in *palustris*, *t.* 1973, to which the plant before us is most allied; but the flowers are more large and showy than even in that beautiful species, pink in the bud, bright blue when expanded. Their calyx is also more deeply cut, and covered with longer, more spreading and copious hairs, of which Mr. Borrer found the lowermost slightly curved, though not positively hooked, and we remark the same in Swiss specimens. The long slender stalks of the radical leaves afford another striking distinctive mark.—We have from M. Villars a specimen of this *Myosotis*, by which it proves to be what he mentions as the alpine state of *M. scorpioides*, in his *Plantes de Dauphiné*, v. 2. 458.

6

DAUCUS maritimus.

Sea-coast Carrot.

PENTANDRIA Digynia.

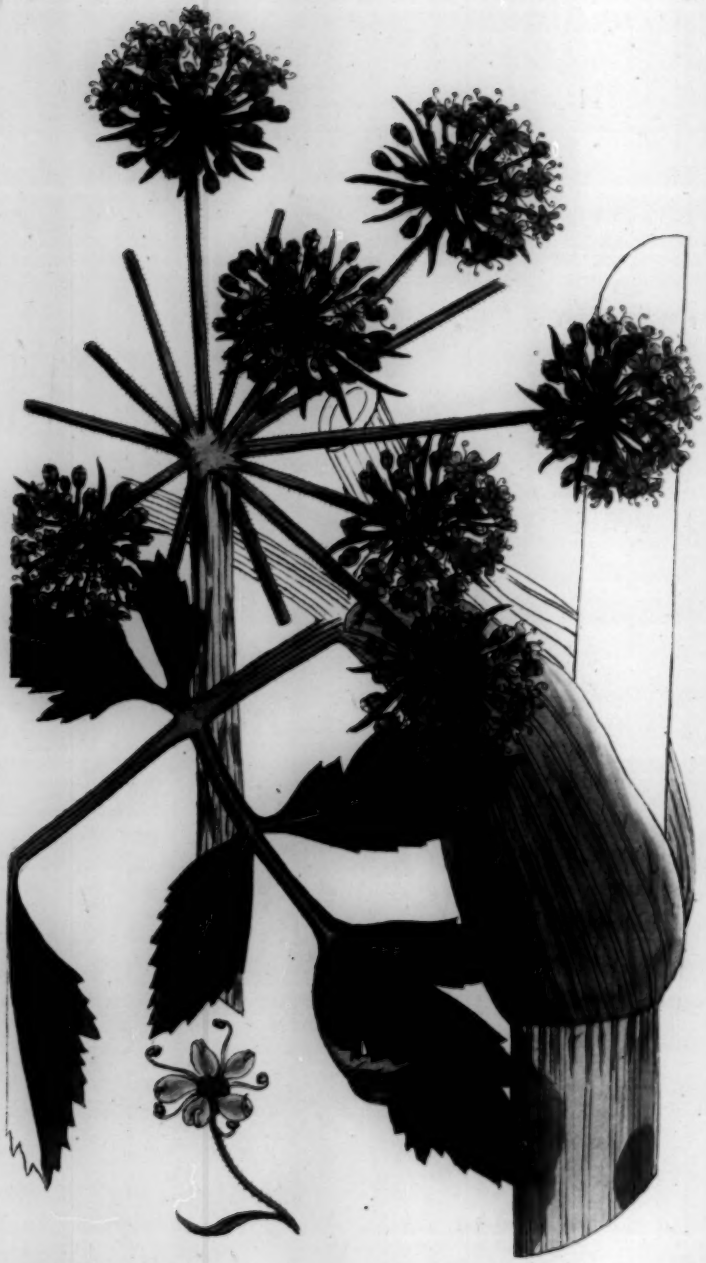
GEN. CHAR. *Invol.* pinnatifid. *Corolla* somewhat radiant. *Fruit* rough.

SPEC. CHAR. Fruit armed with compressed teeth. Leaflets dilated, succulent, hairy, with rounded segments. Umbels convex when in seed.

SYN. Daucus maritimus. *With.* 290.
D. Carota γ. *Sm. Fl. Brit.* 300. *Hull. ed.* 2. 79.

NATIVE of the coast of Cornwall, where Dr. Withering first observed it; and his friend the Rev. Mr. Thompson of Penzance, by many subsequent remarks, confirmed him in the idea, in which we now concur, of its being a species distinct from *D. Carota*, *t.* 1174.

The root is of a dirty white, we presume biennial. Stem scarcely above 18 inches high, woolly rather than hairy, branched, leafy. Leaves also rather woolly; their leaflets broad and succulent, with rounded segments. Umbels white, sometimes slightly reddish, convex and often globose when in flower, nor are they flat, much less concave, when in seed. The fruit is armed with flattened teeth, dilated at the base, approaching to the nature of what are found in the exotic *D. mauritanicus* and *muricatus*, not like the bristles of *D. Carota*. The central, abortive, red or purple flower is not found in *D. maritimus*. This species flowers in July and August.



As it was published by J.t Sowerby London

ANGELICA Archangelica.

Garden Angelica.

PENTANDRIA Digynia.

GEN. CHAR. *Involucra* general and partial. *Fruit* roundish, solid, with 3 wings on each side. *Cal.* with 5 teeth. *Flowers* regular. *Petals* incurved. *Styles* reflexed.

SPEC. CHAR. Terminal leaflet lobed.

SYN. Angelica Archangelica. *Linn. Sp. Pl.* 360. *Sm. Fl. Brit.* 311. *With.* 297. *Hull. ed.* 2. 81. *Woodv. Med. Bot. t.* 50.

A. sativa. *Ger. em.* 999. *Dill. in Raii Syn.* 208.

THE present species of *Angelica* was admitted into the *Flora Britannica* on the authority of Dr. Withering, who found it at Broadmoore, about seven miles north-west from Birmingham. Its natural station we believe to be alpine, and, like some other truly alpine plants, it thrives luxuriantly in the closest parts of London. Being commonly cultivated for the sake of the stalks, which when candied make an agreeable sweetmeat, no wonder that it is in some degree naturalized about Battersea, and similar places. It flowers at various seasons; most naturally early in summer, the large, white, resinous root being biennial.

The stem is upright, four or five feet high, round, smooth, leafy, hollow, striated, somewhat glaucous. Leaves ternate, then pinnate; leaflets ovato-lanceolate, acute, smooth, cut and serrated, the odd one three-lobed. Their common footstalk is remarkably dilated and tumid, clasping the stem. Umbels globose, green, of many rays. General involucrum of a few linear deciduous leaves, often wanting; partial of about eight short linear-lanceolate ones, which occasionally become very large, and serrated. Calyx minute. Petals ovate, inflexed, pale green. Fruit somewhat elliptical, compressed, sharply ribbed. The whole herb has a pungent aromatic flavour, too strong to be pleasant, except when modified by culinary art.

2502.

Act.ª 1 may published by Jas. Sowerby London

CNICUS tuberosus.

Tuberous Plume-thistle.

SYNGENESIA Polygamia-æqualis.

GEN. CHAR. *Cal.* swelling, imbricated with spinous scales. *Recept.* hairy. *Down* feathery, deciduous.

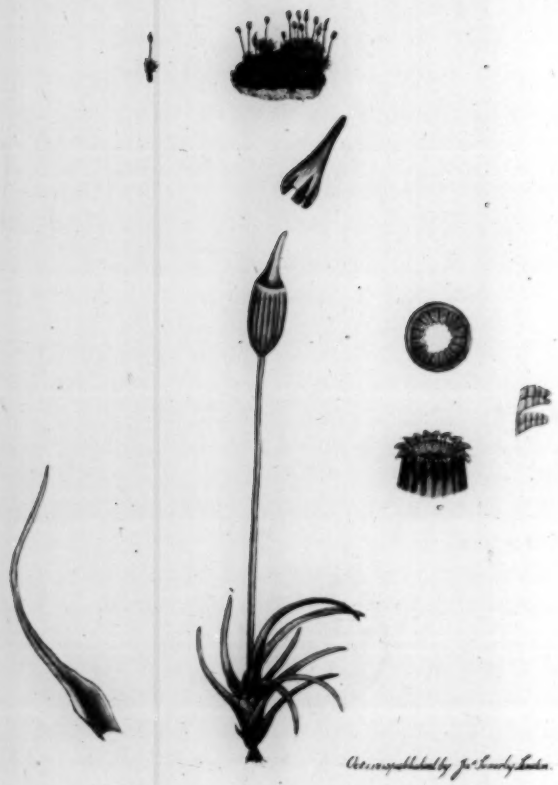
SPEC. CHAR. Leaves with slightly-winged stalks, pinnatifid, lobed, fringed with prickles. Stem unarmed, with about two stalked flowers. Calyx-scales lanceolate, pointed, rather spreading.

SYN. Cnicus tuberosus. *Willd. Sp. Pl. v.* 3. 1680.
Carduus tuberosus. *Linn. Sp. Pl.* 1154.
Jacea tuberosa. *Ger. em.* 728.

WE readily concur with the opinion of Professor Willdenow, first published in his *Prodr. Berolin.* 261, that *Cnicus* is best distinguished by its feathery seed-down from *Carduus*. With this latter genus then will remain our *nutans*, *t.* 1112, *acanthoides*, *t.* 973, *tenuiflorus*, *t.* 412, and *marianus*, *t.* 976, only, of the British species.

The plant before us, entirely new to Britain, was discovered last year by our excellent friend A. B. Lambert, Esq. in a wood of his own, called Great Ridge, near Boyton house, Wilts, growing plentifully, in one spot only. It flowers the beginning of August, and is perennial.

The root creeps, sending down many oblong perpendicular knobs. The stem is about two feet high, leafy, furrowed, hairy, without spines, simple, except at the top, where it usually bears two flowers, scarcely more, the figure in Gerarde being, as far as we have observed, faulty in this particular. The leaves are pinnatifid, and variously cut, fringed with copious yellowish prickles, slightly hairy, their base running down into narrow winged footstalks. Flowers on long hairy stalks, at first rather drooping, bright purple, with a slightly downy calyx, whose scales have prominent, leafy, minutely spinous, tips. Seed-down feathery.—Linnæus justly says the flowers are like *heterophyllus*, *t.* 675, but smaller. It is a very distinct species.



Published by Jas Sowerby London

GRIMMIA trichodes.

Bristle-leaved Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Stem none. Leaves bristle-shaped, curved to one side. Capsule ovate, erect, furrowed. Lid awlshaped. Fringe membranous, furrowed, deciduous.

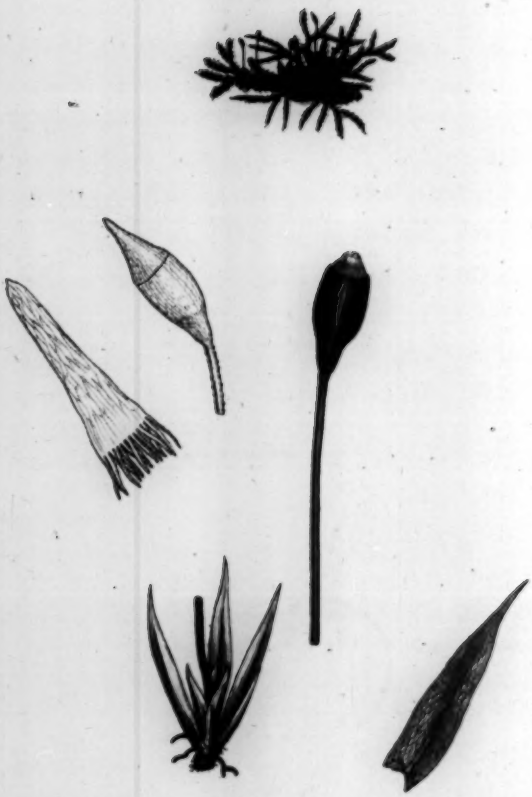
SYN. Gymnostomum trichodes. *Web. et Mohr Ind. Crypt.* 3.

RECEIVED from Mr. W. Borrer, who found it in February 1813, in a stone-pit at Henfield, Sussex. Dr. Taylor had previously met with the same species in Ireland.

This is almost as diminutive a moss as *G. pusilla*, *t.* 2551, with which it nearly agrees in habit, forming similar velvet-like patches, but of a brighter green. The leaves are likewise bristle-shaped, and dilated at their base, but rather longer, and curved to one side. Capsule ovate, pale brown, with 16 longitudinal furrows. Lid awlshaped, nearly as long as the capsule, not quite erect. Veil splitting at the base into several segments, as in some of the genus *Trichostomum*.

The fringe is the greatest peculiarity of this moss, and so very singular is that part, that the genus becomes consequently involved in great difficulty. It seems to have escaped the notice of Weber and Mohr altogether, whence they made the plant a *Gymnostomum*. Mr. Borrer observes that the fringe seems a continuation of the inner coat of the capsule, and looks at first like a thin inflexed membrane, nearly closing the mouth; afterwards, when dry, it becomes reflexed, forming 16 very short, blunt, flat and pale teeth, and soon falls off.—Mr. J. D. Sowerby found each tooth divided by a line, transversely furrowed, and occasionally emarginate. In the present state of our knowledge we cannot but refer this moss to *Grimmia*, with several received species of which it accords in habit.

2564



Curtis del. et publ. by J. & C. Curtis, London.

NECKERA splachnoides.

Pear-fruited Neckera.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong, from a lateral scaly sheath. *Outer fringe* of 16 sharp teeth: *inner* of 16 capillary alternate ones. *Veil* smooth.

SPEC. CHAR. Stem branched, spreading. Leaves lanceolate, pointed, flat, spreading every way; those of the sheath six, in two rows. Fruitstalk granulated above. Capsule erect, contracted at the base. Veil fringed.

DISCOVERED by Dr. Taylor on Secawn mountain near Dublin. Mr. Hooker has favoured us with specimens, under the above name.

This very curious and pretty moss forms tufts of a fine shining green, upon the trunks of trees. Its creeping stems throw out short, compound, slender branches, hardly an inch long, clothed with spreading, minute, lanceolate, pointed, entire, single-ribbed leaves, rather thickened at the edges. Fruitstalks lateral, from the bottoms of the branches, erect, dark red, half an inch long, finely granulated about the upper part; each accompanied at the base by a pale pellucid sheath, of three narrow-lanceolate leaves, with red ribs, enclosing three internal smaller leaves of the same form. Capsule nearly erect, scarcely bigger than a grain of sand, dark brown, obovate, contracted at the base, so as to resemble the seed-vessel of a *Splachnum*. Lid conical, about as long as the capsule. Fringe pale brown. Veil cylindrical, reticulated, naked, fringed at the base with numerous, equal, linear, parallel segments, for a drawing of which, and of the lid, we are indebted to Mr. Hooker.

As it is published by J.t Cumming London.

HYPNUM umbratum.

Striated Proliferous Feather-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* ovate-oblong, from a lateral scaly sheath. *Outer fringe* of 16 teeth, dilated at the base: *inner* a variously-toothed membrane. *Veil* smooth.

SPEC. CHAR. Stem doubly pinnate. Leaves heart-shaped, pointed, finely serrated, with several longitudinal plaits, but no nerves. Lid conical, with a small point.

SYN. Hypnum umbratum. *Ehrh. Crypt.* 66. *Sm. Fl. Brit.* 1298. *Hedw. Sp. Musc.* 263. *t.* 67. *f.* 10—12. *Turn. Musc. Hib.* 158.

ORIGINALLY discovered in Ireland by the late Dr. Scott. Our present specimen was gathered by Dr. Taylor, on Sefing mountain, in the county of Wicklow.

This species, no less rare than the *H. recognitum*, *t.* 1495, is of a rather larger size, and not so regularly bipinnate. The stem is interruptedly pinnate in the first instance, its copious branches either simple or again pinnate, but not with great regularity. Leaves of a fine, bright, yellowish, rather shining green, spreading, heartshaped, dilated, pointed, minutely serrated, destitute of ribs or veins, but furnished with many longitudinal plaits or furrows. Sheaths often several together, rather lax, of several oblong, serrated, rough-awned leaves. Fruitstalks crimson, rough, an inch and half or two inches long. Capsule inclining, ovate. Lid short, conical, obtuse, with a small point.

2566

JUNGERMANNIA Donniana.

Highland Jungermannia.

CRYPTOGAMIA Hepaticæ.

GEN. CHAR. Male flowers sessile. *Anthers* stalked. *Capsule* on a stalk, rising from a sheath, of 4 valves. *Seeds* attached to elastic filaments.

SPEC. CHAR. Erect, nearly simple, slender and wavy. Leaves closely imbricated, almost horizontal, oblong-ovate, concave, curved to one side; with two teeth at the extremity.

SYN. Jungermannia Donniana. *Hooker Brit. Jung. t.* 39.

MR. G. DON alone appears to have gathered this species, which he first observed in 1795, on the highest mountains of Clova, Angusshire. He has subsequently met with the same on many of the loftiest Highland hills; so that it is justly appropriated to the commemoration of himself and his country. No fructification has been detected.

The stems grow erect in dense tufts, and are from one to three inches long, the thickness of horse-hair, wavy, rigid, brittle when dry, brown, scarcely ever throwing out any branches, leafy from top to bottom. Leaves of a dull brownish or tawny green, inserted horizontally in two rows, but curved to one side, crowded, uniform, oblong-ovate, about a line in length, concave; their edges entire, often incurved; the point obtuse, with an acute notch.—This plant is very distinct from every other British Jungermannia.

Nov. 1.1819 published by J.& J. Sowerby London.

JUNGERMANNIA decipiens.

Deceptive Jungermannia.

CRYPTOGAMIA Hepaticæ.

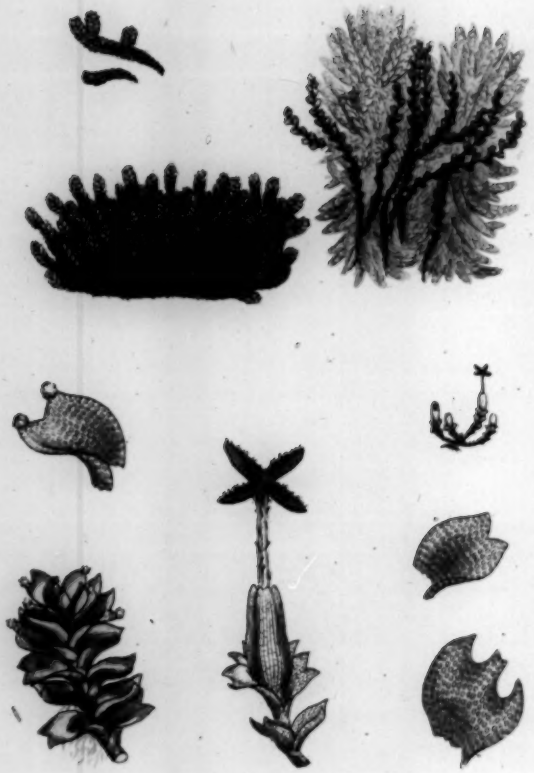
GEN. CHAR. Male flowers sessile. *Anthers* stalked. *Capsule* on a stalk, rising from a sheath, of 4 valves. *Seeds* attached to elastic filaments.

SPEC. CHAR. Upright, wavy, nearly simple. Lower leaves smallest, ovate, entire; upper roundish-ovate or squarish, with one or two distant spinous teeth. *Hooker.*

SYN. Jungermannia decipiens. *Hooker Brit. Jung. t.* 50.

FOUND on rocks in heathy places about Bantry in Ireland, by Miss Hutchins, who sent our specimens to Mr. Turner, and who at first suspected the plant to be a variety of *spinulosa, t.* 2228; but, after three years' attention to its growth, was satisfied of its being permanently distinct. No fructification has been discovered.

The roots are threadshaped and creeping. Stems erect, rigid, slender, wavy, scarcely branched, leafy, composing dense tufts, from half an inch to an inch and a half in height. Leaves alternate, rather distant, spreading in two rows, decurrent; the lower ones very small, upright, ovate, concave, entire; the rest gradually larger, somewhat quadrangular, acute, furnished with one or two distant spinous teeth, placed without any regularity. The upper leaves become gradually smaller, and more elongated.



Nov. 1, 1812 published by Jas. Sowerby London

JUNGERMANNIA ventricosa.

Tumid Jungermannia.

CRYPTOGAMIA Hepaticæ.

GEN. CHAR. Male flowers sessile. *Anthers* stalked. *Capsule* on a stalk, rising from a sheath, of 4 valves. *Seeds* attached to elastic filaments.

SPEC. CHAR. Creeping, somewhat branched. Leaves spreading in two rows, squarish, bluntly emarginate; concave at the base. Sheaths terminal, nearly spherical; at length elongated; plaited and toothed at the margin.

SYN. Jungermannia ventricosa. *Dicks. Crypt. fasc.* 2. 14. *With.* 874. *Hull.* 278. *Hooker Brit. Jung. t.* 28.

J. bidentata. *Schmid. Jung.* 20. *f.* 14, 15.

J. minima repens, foliis bifidis, vaginâ florum ventricosâ. *Mich. Gen.* 9. *t.* 5. *f.* 15. Copied by Dill. 489. *t.* 70. *f.* 14.

PRECEDING authors have mentioned this as a rare mountain plant. Dillenius was not aware of having seen it. Mr. Hooker however assures us that it is common in various parts of the kingdom, either on a boggy or a loamy soil. Our specimens in fruit were sent by Mr. Lyell to Mr. Hooker, but not in time to appear in his admirable work. He has therefore obligingly communicated them to us. The stems creep frequently on the ground, or over neighbouring mosses, and are generally branched, from half an inch to an inch long, clothed with two rows of crowded, spreading, squarish leaves, whose extremity is cloven into two sharp distant points, by a wide rounded notch, in which last character, its greater size, and more branched habit, this species differs from *excisa*, *t.* 2497, as well as in the great abundance of granulations, now known to be buds, at the tips of the leaves. In consequence of this ample mode of increase, it seems the capsules are rarely perfected, though the plaited, toothed, gradually elongated sheaths often occur, falling off prematurely.

2569.

4

Nov.1 1819 published by J.& C. Lee, Lyndon.

JUNGERMANNIA Francisci.

Holt Jungermannia.

CRYPTOGAMIA Hepaticæ.

GEN. CHAR. Male flowers sessile. *Anthers* stalked, *Capsule* on a stalk, rising from a sheath, of 4 valves. *Seeds* attached to elastic filaments.

SPEC. CHAR. Ascending, simple or branched. Leaves in two rows, turned upwards, ovate, concave, sharply cloven. Stipulas minute, ovate, divided. Sheaths on short branches, terminal, nearly cylindrical, even, toothed.

SYN. Jungermannia Francisci. *Hooker Brit. Jung. t.* 49.

THE Rev. R. B. Francis is justly commemorated in the name of this species, as having made several discoveries in the history of the genus to which it belongs, and as having first found the present plant about his residence at Holt and Edgefield, Norfolk. We have it also from Hampshire and Ireland.

The tufts formed by this *Jungermannia* often assume a brownish, or purple, tinge. The stems, about half an inch long, creep in their lower part, then turn upward, and become divided, being of a fleshy texture, clothed with two rows of small ovate leaves, deeply and acutely notched at the ends, all turned more or less into an erect position. Along the under side is a row of small cloven stipulas. At the ends of some short branches, among several enlarged crowded leaves, stand the nearly cylindrical and even sheaths, which are much longer than the leaves, and unequally toothed at the margin.

Mr. Hooker expresses some suspicion that this may be *J. bifida* of Schmidel's *Icones*, t. 62. f. 19, 20, and t. 64. f. 2; but that accurate and laborious author's omission of the stipulas seems to preclude such an idea.

Nov.1 1813 published by J.F. Dove, St. Johns Square London

ULVA Turneri.

Reticulated Laver.

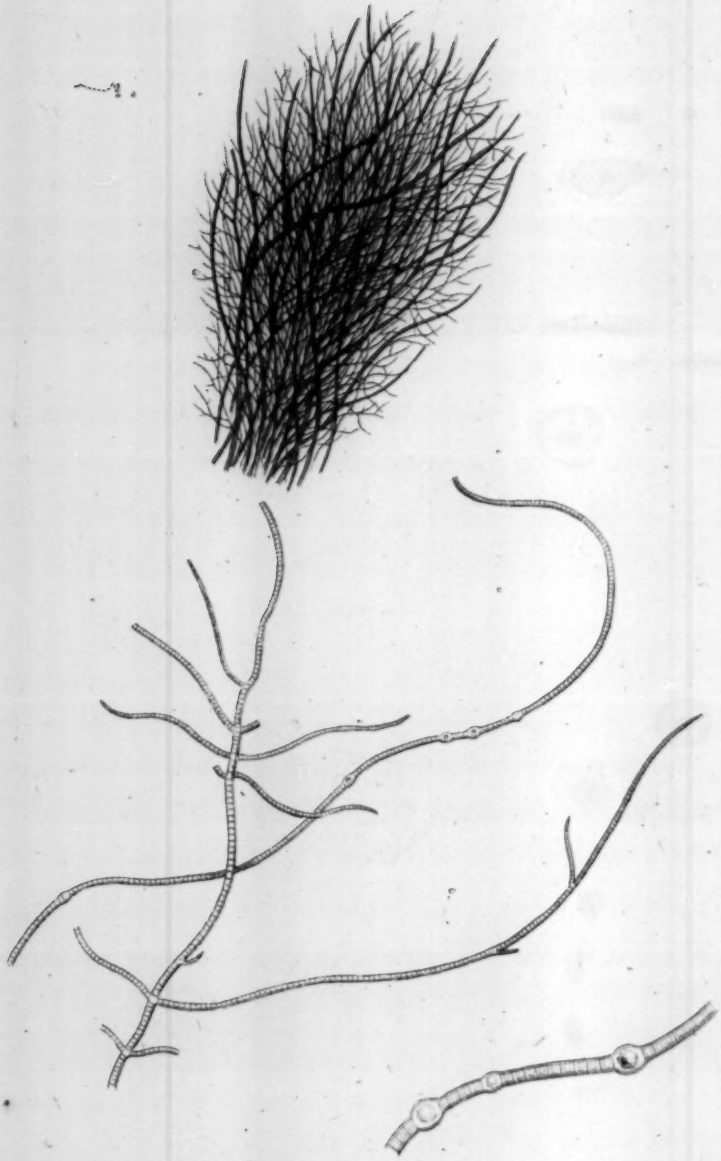
CRYPTOGAMIA Algæ.

GEN. CHAR. *Frond* membranous or gelatinous. *Seeds* solitary, scattered throughout its substance, under the cuticle.

SPEC. CHAR. Membranous, tubular, simple, bluntish, brown, finely reticulated. Seeds in little clusters.

FOUND by Miss Hutchins at Bantry bay, and by Mr. W. Borrer on the Sussex coast. Mr. Turner sent it to Mr. Dillwyn, who gave it the above name, in an essay, which, as we are informed, he has long been preparing, upon this genus.

Several fronds grow together, bearing a considerable resemblance to *U. fistulosa*, *t.* 642, in general aspect and colour, being simple, tubular, hollow, tapering at the base, obtuse at the summit; their substance thin and rather membranous. An essential difference however consists in the *U. Turneri* being throughout of a fine reticulated structure, compared by Mr. Turner to that of the *Conferva umbilicata* of the late Colonel Velley, *Tr. of Linn. Soc. v.* 5. 169. *t.* 7. The seeds are dark brown, collected together in small spots, over the whole frond.—Another plant, nearly akin to these two, is *Ulva stellata, Wulf. in Jacq. Coll. v.* 1. 351, which is *Lichenoides gelatinosum tenue reticulatum, Dill. Musc.* 138. *t.* 19. *f.* 21.



Published by J.C. Sowerby, Strand.

CONFERVA brachiata.

Cross-armed Soft Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Light brown, very much branched, slender, wavy, entangled; the branches opposite, crossing each other, widely spreading, with taper points. Joints cylindrical, twice as broad as long.

FOUND by Mr. Hooker, in salt marshes at Cley, Norfolk, in April 1808, growing amongst *Ulva compressa*. Mr. Turner had long before (in March 1801) gathered the same in ditches, near the river, at Caistor, by Yarmouth.

We have hitherto refrained from publishing this plant, because it was supposed to be possibly one of the many varieties of *C. littoralis*, t. 2290. On a careful examination however, it seems, that the widely spreading direction of its chief branches, which are opposite, and cross each other in pairs, is a clear and sufficient mark of distinction. The colour is a pale tawny or sandy brown. Joints in shape and size agreeing with *littoralis*. Some of them are, now and then, singularly tumid and globose; an appearance to be attributed perhaps to disease, scarcely to impregnation.

Published by J. Curtis, London

RUBUS suberectus.

Red-fruited Bramble.

ICOSANDRIA Polygynia.

GEN. CHAR. *Cal.* 5-cleft. *Petals* 5. *Berry* superior, composed of several single-seeded grains.

SPEC. CHAR. Leaves pinnate, with five or seven ovate leaflets, hairy beneath; upper ones ternate. Stems ascending. Prickles minute, nearly straight.

SYN. Rubus suberectus. *Anderson in a paper to the Linn. Soc.*

R. nessensis. *Hall in Tr. of R. Soc. of Edinb. v.* 3. 20.

THIS new *Rubus*, first found near Loch Ness, has since been observed in other parts of Scotland. Mr. G. Anderson, to whom we are obliged for clearly ascertaining its specific characters, has gathered it not only in the highlands of Aberdeen and Perthshire, but also in Wales, and near Ripley, Yorkshire. Mr. G. Don noticed it on the hills of Forfarshire. Where this species abounds, it is often intermixed with *corylifolius*, *t.* 827, which it most nearly resembles in habit, though perhaps more allied in reality to the Rasp-berry, *t.* 2442.

The stems are biennial, growing tolerably upright without support, brittle, reddish, with spreading branches; their prickles scattered, nearly straight, and peculiarly small. Leaves pinnate, with five or seven leaflets; the upper ones with but three; all roundish ovate, sharply serrated, light green on both sides; smooth and almost even above; hairy beneath. Panicle racemose, rather lax. Petals white, narrow-obovate. Calyx finally reflexed. Fruit deep red, not purple, usually of but few perfect grains, of a very agreeable flavour, resembling, in some degree, the *R. Idæus*, and being later than that fruit, Mr. Anderson suggests that the *R. suberectus* might prove not unworthy of cultivation.

Pl. 257 published by J. & C. Sowerby, London

JUNGERMANNIA Mackaii.

Broad-sheathed Jungermannia.

CRYPTOGAMIA Hepaticæ.

GEN. CHAR. Male flowers sessile. *Anthers* stalked. *Capsule* on a stalk, rising from a sheath, of 4 valves. *Seeds* attached to elastic filaments.

SPEC. CHAR. Creeping, irregularly pinnate. Leaves spreading in two rows, unequally two-lobed, almost orbicular; side-lobe minute, involute. Scales rounded, undivided. Sheaths terminal, inversely heartshaped, with three angles, and a close toothed mouth.

SYN. Jungermannia Mackaii. *Hooker Brit. Jung. t.* 53.

GATHERED near Bantry by Miss Hutchins. Mr. Hooker received it first from Mr. J. T. Mackay of Dublin, to whom the name is justly appropriated. The plant however is not peculiar to Ireland, but abounds in Devonshire and Somersetshire, in rocky heathy places. The capsules are found by Miss Hutchins in November.

The allies, and frequent companions, of this species are *J. dilatata*, *t.* 1086, *tamariscina*, *t.* 2481, *serpyllifolia*, *t.* 2537, and most of all, as to habit perhaps, the common *complanata*, *t.* 2499. The colour is a dull dirty green. Leaves nearly orbicular; their side-lobe small and involute; their scales also orbicular, or slightly emarginate. The sheaths are remarkable for their broad compressed shape, and their contracted, slightly prominent, toothed orifice. The fruitstalk scarcely extends beyond the sheath. Capsule of four pale spreading valves, to which the spiral filaments, inclosed in tubes, are attached, like those in *t.* 2537.

Lee & Kirk published by J. & A. Arch, Cornhill.

LICHEN cervicornis.

Buck's-horn Cup Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

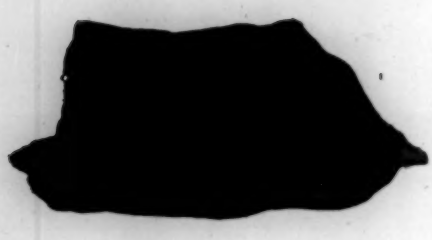
SPEC. CHAR. Cup-shaped, cartilaginous, branched. Leaves nearly upright, glaucous, in oblong segments. Cups from the disk of the leaves, turbinate, at length proliferous, on slender stalks. Tubercles numerous, marginal, sessile, blackish.

SYN. Lichen cervicornis. *Achar. Prod.* 184.
Bæomyces cervicornis. *Achar. Meth.* 336. *Winch. v.* 2. 65.

WE gathered fine specimens of this elegant Lichen on the Pentland hills, near Edinburgh, in 1782. The plant was then confounded with the *alcicornis*, *t.* 1392, from which Acharius justly distinguished it. The base is sometimes absolutely shrubby; the whole plant rigid, though the leaves are brittle when dry; the oblong form of their crenate segments, and their glaucous hue, are peculiar, and they very generally assume a brown tinge. The cups grow abundantly, on slender cylindrical stalks, from the disks of the leaves, and are distinctly formed, slightly leafy, more or less proliferous, bordered with numerous, small, sessile, uniform tubercles, of a dark blackish brown.

This species has been observed by Mr. W. Borrer in various mountainous parts of England, Scotland, and Ireland, and we are indebted to him for our specimen here represented, which agrees with some from Acharius.

2575.



Jan. 1st published by J. & C. Sowerby, London.

LICHEN confinis.

Sea-weed Lichen.

CRYPTOGAMIA Algæ.

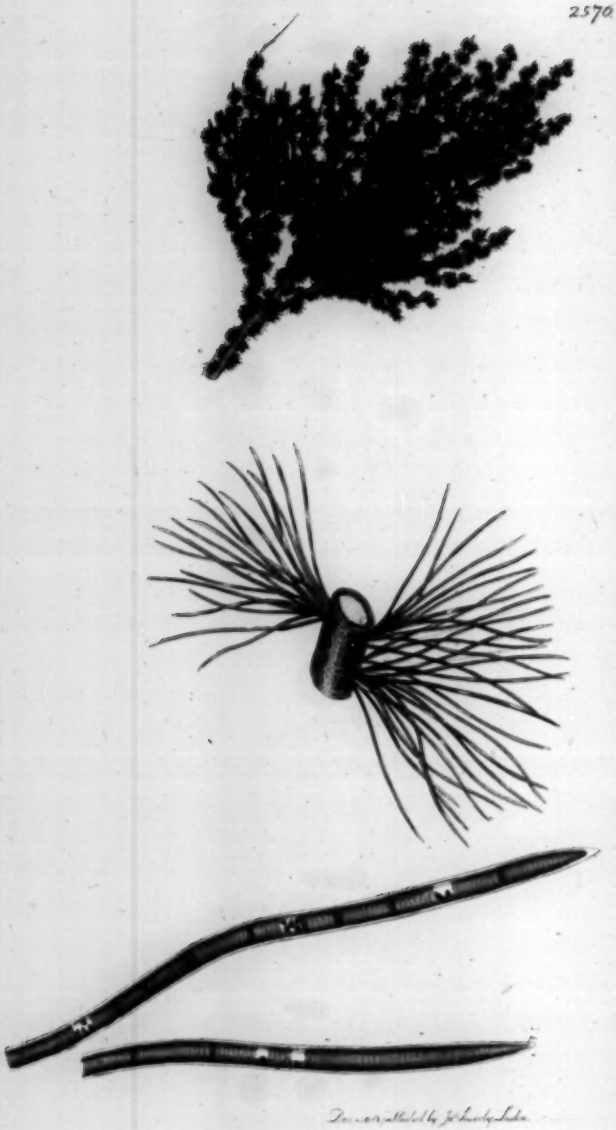
GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Shrubby, solid, erect, tufted, branched, olive-black; branches nearly cylindrical, swelling upwards, pitted at the top.

SYN. Lichen confinis. *Achar. Prod.* 208. *Fl. Dan. t.* 879. *f.* 2.
Stereocaulon? confine. *Achar. Meth.* 317.
Fucus pygmæus β. *Turn. Hist. Fucor. v.* 4. 17.

SIR THOMAS GAGE, Bart., to whom we are obliged for this remarkable plant, informs us he first received it from Miss Hutchins, but afterwards gathered the same on the inundated rocks of the Kenmare river, Ireland.

It is one of those ambiguous cryptogamic productions whose genus, if not its natural order, remains in uncertainty. Mr. Turner, "that exquisite cryptogamist," as he has been happily called, ranks this production as a variety of *Fucus pygmæus*, *t.* 1332. We never dissent from our friend, on any subject to which he has given his attention, without great scruples, nor are we led by superior confidence in Acharius to do so here; but, on a careful investigation, we clearly perceive more of the hue, texture, and flavour of a *Lichen*, than of a *Fucus*, in the present minute plant, and the tumid pale extremities of some branches indicate a near approach to *Collema*, to which genus it might perhaps without violence be referred; whereas every thing in the texture and habit of the *pygmæus*, points out a *Fucus*.



CONFERVA confervicola.

Pointed Parasitic Conferva.

CRYPTOGAMIA Algæ.

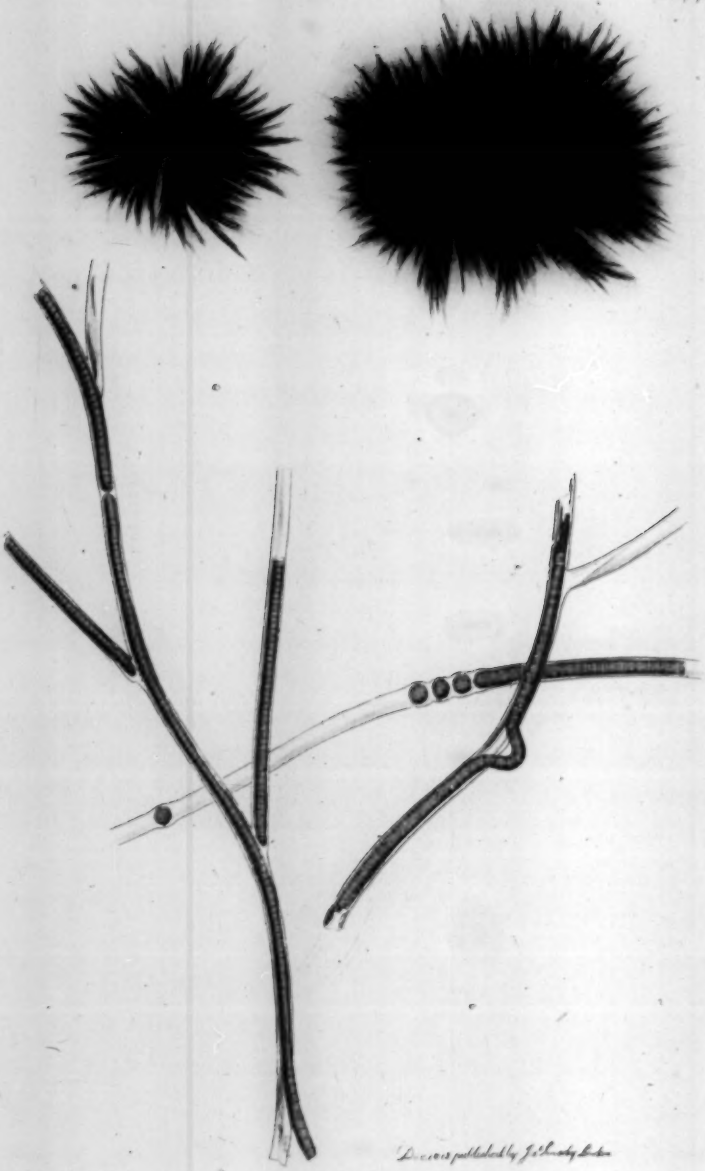
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Glaucous green. Filaments unbranched, shortish, clustered, taper-pointed. Joints four times as broad as long.

SYN. Conferva confervicola. *Dillw. Syn.* 39. *Conf. t.* 8, *and t.* A.

C. marina parasitica, tenuissima et brevissima, glauca. *Dill. Musc.* 552. *t.* 85. *f.* 21.

COMMON in the sea, not only upon other larger *Confervæ*, but on the slender cylindrical *Fuci*, composing numerous little scattered tufts, of a dullish glaucous green. These consist of many spreading simple filaments, not above one-eighth of an inch long, and very slender, tapering to an acute point. The joints, which, as Mr. W. Borrer remarks, are not represented, nor well described, by Dillwyn, are extremely copious and regular, each joint full four times as broad as long. Besides these, irregular bands are seen here and there, as in other species, whose nature is not well explained. The supposed fruit, figured in Mr. Dillwyn's *t.* A, where the joints are truly represented, was found and delineated by Mr. Hooker. This is a roundish, sessile, dark-olive tubercle, with a transverse partition, that is, like the coat, pellucid.



London published by J. Sowerby Lambeth

CONFERVA distorta.

Twisted-branched Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

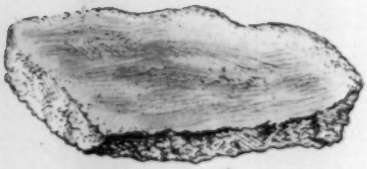
SPEC. CHAR. Glaucous green. Filaments cylindrical, even, cohering as if branched, twisted, slightly spreading. Joints twice as broad as long.

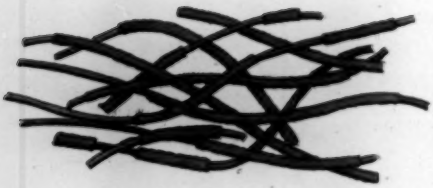
SYN. Conferva distorta. *Fl. Dan. t.* 820. *Dillw. Syn.* 41. *Conf. t.* 22, *and t.* A.

THIS fresh-water Conferva grows in short thick tufts on decaying grass, upon small pieces of which it often floats in autumn over the surface of boggy pools. Mr. Dillwyn, who reckons it very rare, found it on Sketty Burroughs, near Swansea. Our specimens were sent from Anglesea, in 1808, by the Rev. Hugh Davies.

The colour when fresh is a deep but glaucous green, turning paler as the plant advances towards decay. When long exposed to the air, the whole becomes quite tawny. The filaments are from half an inch to an inch long, very slender and even, apparently branched; but Mr. Dillwyn esteems this appearance to be caused by the adhesion of the filaments only. Each is attached merely by its coat, and twisted just above the point of attachment. The joints are full twice as broad as long; at first regular and uniform, but the colouring matter of some seems to swell, or to coalesce, into round balls, leaving the tube empty and pellucid for a considerable space.

2579.





Jan. 1st published by Jas. Sowerby.

CONFERVA cyanea.

Sky-blue Wall Conferva.

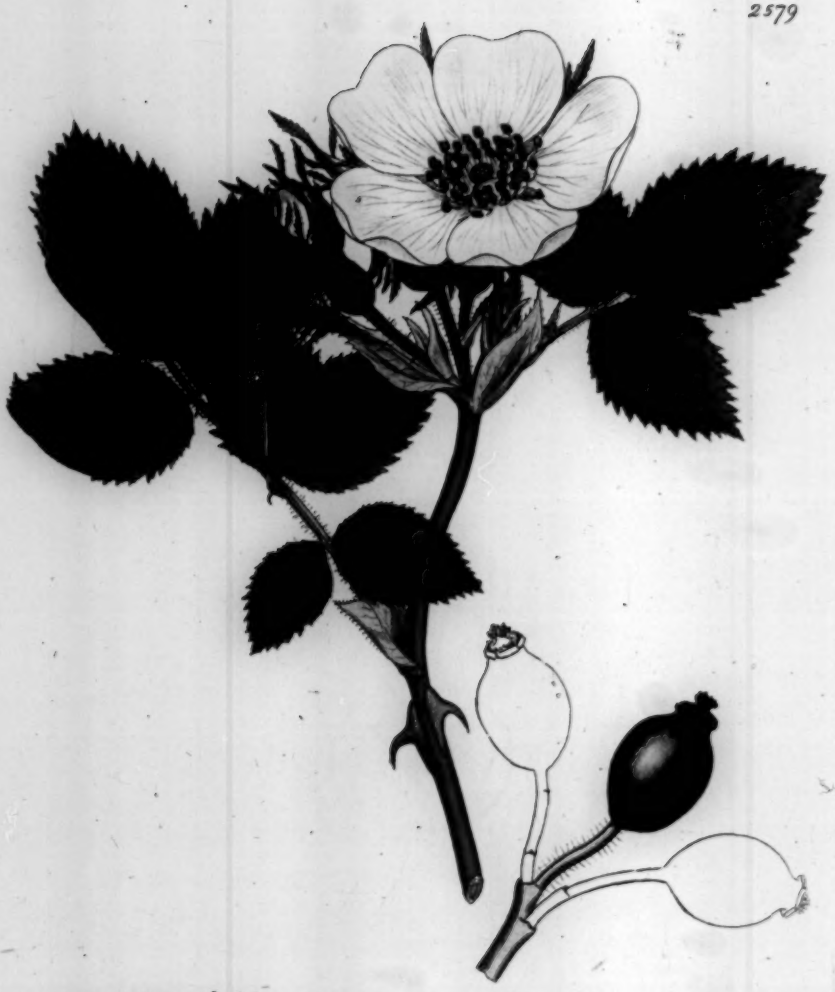
CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Glaucous blue. Filaments simple, entangled, cylindrical, even, with a deciduous coat. Joints obsolete, about as broad as long.

FOR the discovery of this new *Conferva*, we are indebted to Sir Thomas Gage, Bart., who finds it not uncommon on the damp inside walls of several Suffolk churches, as at Icklingham, and his own church of Hengrave. He has observed the same in Lancashire.

On the wall it is conspicuous for its light sky-blue colour, like some sort of *Mucor*. Under a high magnifier, and moistened, it is found to consist of minute, even, simple, entangled threads, one-500dth part of an inch in diameter, coated with a frequently interrupted covering, of a dull glaucous green hue, under which the thread itself appears of a lighter glaucous blueish colour, very even in thickness and surface, consisting of scarcely distinguishable joints, about as broad as they are long.



Jones's published by Jas. Swan & Son London

ROSA dumetorum.

Downy-stalked Dog-rose.

ICOSANDRIA Polygynia.

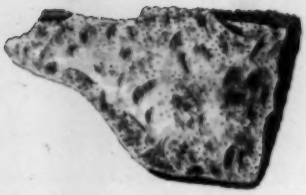
Gen. Char. *Cal.* urn-shaped, fleshy, contracted at the orifice, terminating in 5 segments. *Petals* 5. *Seeds* numerous, bristly, fixed to the inside of the calyx.

Spec. Char. Fruit ovate, smooth. Flower-stalks villous, somewhat bristly, clustered. Prickles of the stem hooked. Leaflets ovate, doubly serrated, slightly hairy beneath. Footstalks very downy.

Syn. Rosa dumetorum. *Pers. Syn. pars* 2. *sect.* 1. 50? Borrer.

GATHERED in bushy places in Sussex, flowering in July, and ripening fruit in October, by Mr. W. Borrer, who has paid great attention to our native Roses, hitherto much neglected, and who thinks the present may belong to the above synonym. We have a specimen of the same from Switzerland, if we mistake not, which the late Mr. Davall supposed to be new.

This plant differs from *R. canina*, *t.* 992, in having very downy footstalks, leaflets rounder and flatter, doubly serrated, with hairy ribs and veins beneath, and flowerstalks either villous and bristly, or only villous, with soft spreading permanent hairs, rarely smooth. These hairs, and the double serratures, distinguish it from *collina*, *t.* 1895, with which its downy footstalks agree. The flower is smaller and paler than in either of these two species. There is no other British Rose with which this can be confounded. The bush is more robust than *canina*, with very strong hooked prickles. The styles accord with that species; not with those of *arvensis* or *collina*.



Imp. Lemercier et Cie, Paris

LICHEN Gagei.

Gagean Urceolate Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

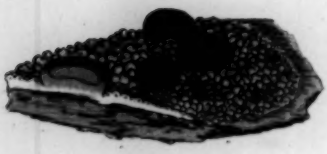
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust continued, calcareous, smooth, brownish-white; irregularly cracked when dry. Shields very minute, blackish, sunk in the crust.

THIS, which is a species of the Acharian genus *Urceolaria*, was discovered on the rocks of Glena and Glen Flesk near Killarney, by Sir Thomas Gage, Bart., but is not common there. We have inscribed it with the name of its intelligent discoverer, as a mark of our gratitude and respect. Few botanists are more deeply versed in this difficult tribe of vegetables.

The only species to which this can possibly be compared is *L. Acharii*, *t.* 1087. Like that it grows on rocks occasionally inundated, and agrees with it in the hard even texture, and apparently levigated surface, of its uninterrupted inseparable crust. The colour however is a very pale brownish or ochrey white, not red. We are aware indeed that *L. Acharii* sometimes loses nearly all its red hue. But the far more minute, blackish, not red, shields of *L. Gagei*, which, in a young state, resemble diminutive inky dots or stains on the crust, serve amply to discriminate these two neighbouring species.

2581



June 1.1814 published by Jas Sowerby London.

LICHEN dolosus.

Rusty Spongy-crusted Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust dispersed, minutely granulated, somewhat fibrous, bibulous, of a tawny olive. Tubercles minute, blackish brown, with a paler border of their own substance; finally convex, and deprived of their border.

SYN. Lecidea dolosa, *Ach. Meth. Suppl.* 11.

OBSERVED, in great abundance, on a rock called O'Donoghue's prison, at Killarney, by Sir Thomas Gage, who, on comparing his specimens with the collection sent by Acharius to the Linnæan Society, thought himself tolerably sure of the above synonym. The description of that author answers well to our plant, except that his specimens grew on the antient barks of oaks and spruce firs.

The plant before us covers the uneven surface of the grey slate rock, in wide and broken patches, of a tawny olive brown, here and there yellowish, consisting of fine, spongy, seemingly downy, inseparable granulations, instantly imbibing any moisture. In this particular it agrees with our very curious *L. spongiosus*, *t.* 1374; but the fructification is that of an Acharian *Lecidea*, not a *Collema*, and consists of minute sessile tubercles, of a very dark brown when young, with a paler border of their own substance. Their disk, which is at first nearly flat, becomes subsequently more convex, and black, with no remains of the border.

Jones sculp. published by Jas. Sowerby London

COLLEMA multipartitum.

Many-branched Collema.

CRYPTOGAMIA Algæ.

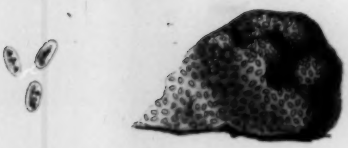
GEN. CHAR. *Shields* orbicular, horizontal, nearly sessile, superficial, with a gelatinous accessory border.

SPEC. CHAR. Frond radiating, fleshy; segments repeatedly forked, fan-shaped, crenate; convex above; concave beneath. Shields prominent, at length blackish and flat.

COMMUNICATED by Sir Thomas Gage from Killarney, in Ireland, where it abounds on walls and rocks.

The fronds are fleshy, but not so very gelatinous as those of some other species, of a dull blackish olive, radiating from a centre, which they soon leave bare; sometimes becoming dispersed in small broken fragments, which lose their concentric disposition. The whole plant is deeply and repeatedly divided into wavy or twisted segments, sometimes rather linear, but dilated, forked, and subdivided towards the extremity, and bluntly but copiously crenate at the broad tips. The upper side is always convex; the under channelled or concave. Shields copiously dispersed over the upper surface; at first sessile, but soon becoming elevated; reddish brown and slightly concave, with a thick even border, when young; but subsequently flattened, blackish, with much less appearance of the border.

We have a most elegant and finely divided specimen of this *Collema*, but without shields, gathered in Westmoreland in 1782, which we could never refer to any described one; and we now readily concur with Sir Thomas Gage's opinion, in establishing it as a new species.



Pubd as published by Jas Sowerby London

U L V A protuberans.

Prominent-seeded Laver.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Frond* membranous or gelatinous. *Seeds* solitary, scattered throughout its substance, under the cuticle.

SPEC. CHAR. Gelatinous, thick, angular, green. Seeds elliptical, at length prominent and deciduous.

THIS extraordinary production was discovered growing among moss, on wet shady parts of the sand-rocks at Uckfield, Sussex, by Mr. W. Borrer, in September 1813.

It consists of an assemblage of thick, fleshy, juicy, angular or wrinkled lobes, of a light pellucid green. The seeds are about the size of red-poppy seed, but elliptical, green, scattered separately throughout the internal substance, as well as copiously prominent through the external surface, from which, when ripe, they easily separate on being touched. These characters induce us to refer the plant in question to *Ulva*, rather than to any other known genus.

Pubd as published by Jas Lackington

CONFERVA tenuissima.

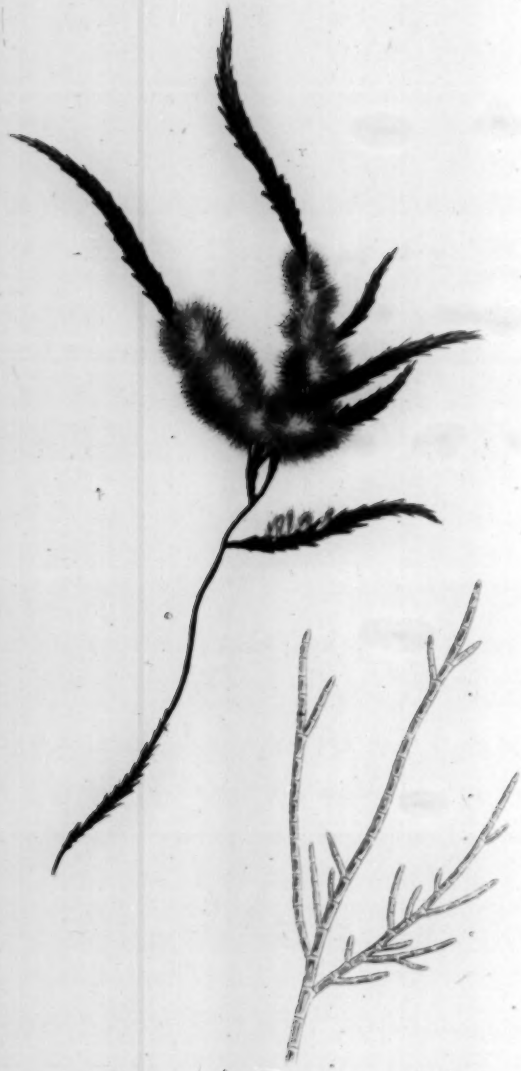
Minute Warm-spring Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Dark green, ascending, tufted. Filaments simple, cylindrical, even, without any visible joints.

COMMUNICATED to Mr. Sowerby, by the Rev. Dr. Davies, who observed it in the celebrated warm waters of Bath, Somersetshire, spreading, rather unequally, in broad velvet-like patches, of a dark green colour. The irregularity of its appearance arises from the filaments being collected together into little ascending tufts, apparently rooted in the muddy deposit of the water. Each tuft proves, on examination, to consist of simple, uniform, even filaments; crowded together, quite pellucid, and equally destitute of joints and branches. Their diameter is not more than eight or ten thousandth parts of an inch; this being one of the most minute species that we have examined. We can refer it to none in Mr. Dillwyn's work.



CONFERVA nana.

Pointed Dwarf Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Light reddish or greenish brown, tufted, erect, much branched. Branches scattered, taper-pointed. Joints twice as long as broad.

SYN. Conferva nana. *Dillw. Conf. t.* 30. *Syn.* 71. *n.* 116.

WE received this from Ireland by favour of Miss Hutchins, through the hands of Mr. J. T. Mackay. It is a fresh-water species growing on *Fontinalis*, and forming little dense upright tufts, in our specimens of a light reddish brown. Mr. Dillwyn represents them greener; but perhaps this has arisen from the printing of his plate in green, which we have but too often known to produce error. The filaments are doubly, but irregularly, branched; their ultimate divisions short, scattered or alternate, always taper-pointed, which is an essential character. Their surface is even; the joints twice as long as broad. The colouring matter seems unequally diffused, but this is probably owing to the specimen having been dried. It adheres to paper.

Tab. 1814 published by J. & C. Sowerby, Lond.

SALIX Stuartiana.

Shaggy Mountain Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

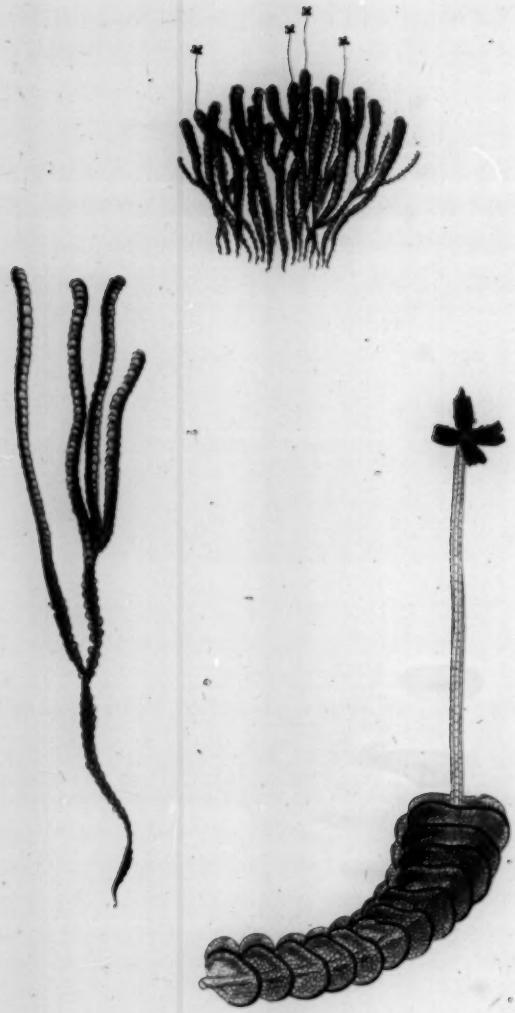
SPEC. CHAR. Leaves nearly entire, lanceolate, acute; shaggy above; densely silky beneath. Stigmas capillary, deeply divided. Style as long as the germen.

SYN. Salix arenaria masculina. *Sm. Fl. Brit.* 1059. *Engl. Bot. v.* 26. 1809.

THE Rev. Dr. Stuart, to whose name we dedicate this Willow, first gave us a specimen of it, in August 1782, from his garden at Luss, as the male plant of Lightfoot's *S. lapponum*, which is the Linnæan *arenaria*, see *t.* 1809. He found it in Breadalbane, where Mr. W. Borrer has since gathered our wild specimen, near the upper end of the Finlarig burn.

Its natural height is two or three feet, but twice as much in a garden. The branches are numerous, and of a dark brown. Leaves smaller than in either *arenaria* or true *lapponum*, lanceolate, sometimes slightly obovate; their upper surface even, clothed with soft, shaggy, cottony down; the under with long, dense, silky hairs. The edge is sometimes slightly wavy. Flower-buds large. Catkins shortish, ovate, with much larger bracteas on their stalks than in *arenaria*. Germen nearly sessile, woolly. Style capillary, about as long as the germen. Stigmas each divided to the base, capillary. The male catkin is very woolly, and short. We believe the exotic capsules, &c., described as *arenaria* in *p.* 1809, rather belong to *S. Stuartiana*.

Linnæus confounded this plant with his *lapponum*; but the authentic specimen of the latter has larger, more wavy leaves, densely cottony beneath, long catkins, a short style, and thick stigmas.



Pubd as the Act directs by Jas Sowerby, London

JUNGERMANNIA compressa.

Compressed Upright Jungermannia.

CRYPTOGAMIA Hepaticæ.

Gen. Char. Male flowers sessile. *Anthers* stalked. *Capsule* on a stalk, rising from a sheath, of 4 valves. *Seeds* attached to elastic filaments.

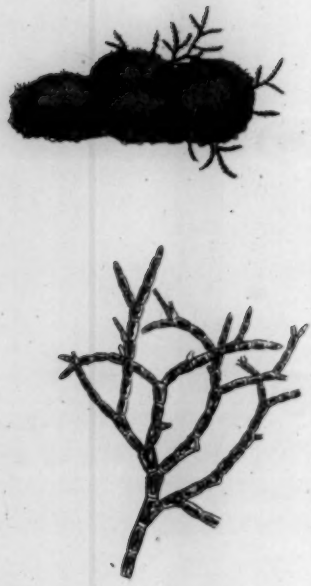
Spec. Char. Erect, subdivided. Leaves in two rows, flat, erect, close-pressed, orbicular; the uppermost somewhat kidney-shaped. Scales minute, remote, on the youngest branches. Sheaths terminal, fleshy, four-toothed, permanent, immersed in the imbricated foliage.

Syn. Jungermannia compressa. *Hooker Brit. Jung. t.* 58.

COMMUNICATED by Dr. Taylor, who found it in Lough Bray; as did Miss Hutchins in mountain rivulets near Bantry, Ireland; producing capsules in June.

The stems are from two to six inches high, erect when not disturbed by a strong current, more or less branched, leafy, forming broad tufts, of a brown or purplish green. Leaves very closely pressed to the stalk, in two erect rows, nearly orbicular, but rather broader than long, entire, pellucid, strongly reticulated; the upper ones largest, more kidney-shaped, and somewhat wavy. Stipulary scales very small and distant, entire or notched, found, according to Dr. Taylor and Mr. Hooker, on the youngest shoots only. Sheaths terminal, solitary, completely concealed by the upper leaves, two or three pair of which are imbricated over and inserted upon them. Each is oblong, four-toothed, fleshy and permanent, being, according to Mr. Hooker's curious remark, a sort of hollow or pouch in the extremity of the stem. We would observe that the lateral exposed pouches of some other species, as *J. trichomanis*, *t.* 1875, and *viticulosa*, *t.* 2513, the fructification of which last is given in Hooker, *t.* 60, are in structure more akin to the above than may at first sight be supposed.

2588



Tab. 11 published by Jas. Sowerby London

CONFERVA cryptarum.

Green Cave Conferva.

CRYPTOGAMIA Algæ.

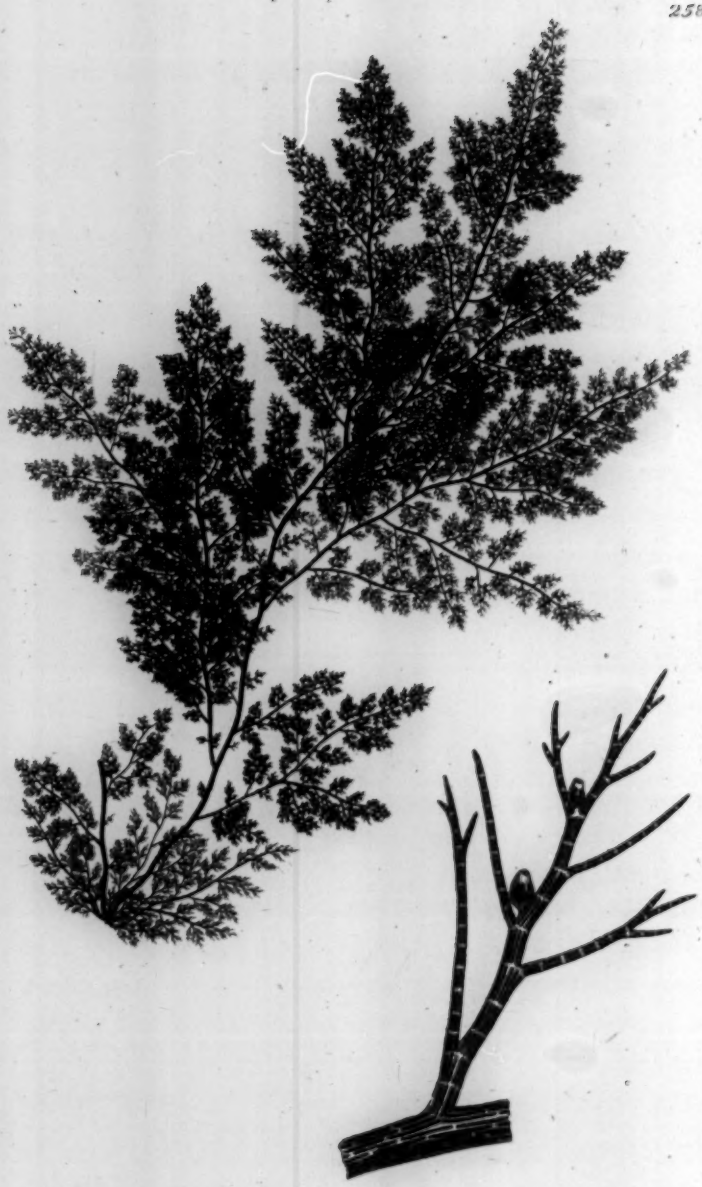
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Green. Filaments entangled, much branched, forked, divaricated, sharp-pointed, somewhat rigid. Joints slightly swelling, twice or thrice as long as broad.

SYN. Conferva cryptarum. *Dillw. Syn.* 59. *t.* D.

WE are induced to publish this species at present, not only because of its rarity, but to do away an idea, apparently suggested by the specific name, of its being the famous *Byssus cryptarum* of Linnæus; see his Tour in Lapland, vol. i. 47 and 55. This last is very distinct, much more slender, paler, and not jointed; at least not visibly so, under a magnifier which shows the joints of the plant before us very conspicuously.

C. cryptarum has hitherto been observed in caverns only, in various parts of Ireland. Miss Hutchins gathered our specimen in caves by the sea-side near Bantry. It grows in tufts, often intermixed with *Hypnum tenellum*, *t.* 1859, and though somewhat akin to *C. velutina*, *t.* 1556, in colour and structure, it is of at least five times as coarse a texture. The branches moreover are totally different in their forked, divaricated, and recurved form, and taper points. The dry specimen is rather rigid, elastic, and pellucid, the green colouring matter settling towards the minute partitions of the joints.



Now ... published by J. & C. Loudon, London.

CONFERVA Brodiæi.

Brodiæan Conferva.

CRYPTOGAMIA Algæ.

Gen. Char. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

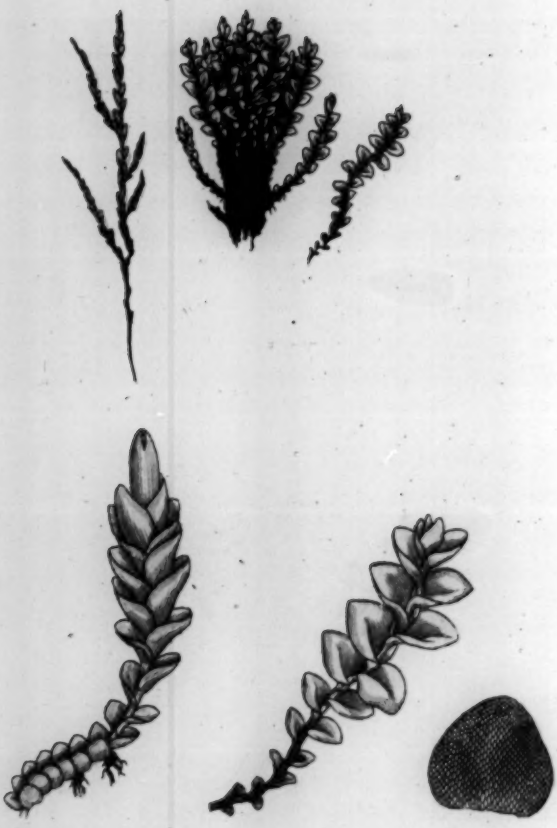
Spec. Char. Purplish brown. Filaments very much branched, striated, elongated. Subdivisions scattered, spreading, many-cleft, clustered; their joints longer than broad; those of the principal branches obliterated. Capsules ovate, sessile, lateral or axillary, solitary.

Syn. Conferva Brodiæi. *Dillw. Syn.* 81. *Conf. t.* 107.

COLLECTED by Miss Hutchins in Bantry bay, in June 1807. We are obliged to that lady, and to Mr. J. T. Mackay, for specimens of this rare species, which was first detected by Mr. Brodie in Scotland.

It is one of the striated, or compound-jointed, tribe, to which *elongata*, *t.* 2429, *polymorpha*, *t.* 1764, *fucoides*, *t.* 1743, and *nigrescens*, *t.* 1717, belong; but the species before us is perhaps the most striking of the whole, being from one to two feet in length, repeatedly and very finely branched, and its ultimate tufts of little branches, in which alone the joints remain visible, are extremely delicate and beautiful. On these only the capsules are found, distinctly visible to the naked eye, ovate, semi-pellucid, sessile, at the sides, or in the forks, of these fine subdivisions. All the main branches, as well as these, are marked with numerous, longitudinal, dark streaks, or veins.

2590



JUNGERMANNIA cordifolia.

Heart-leaved Jungermannia.

CRYPTOGAMIA Hepaticæ.

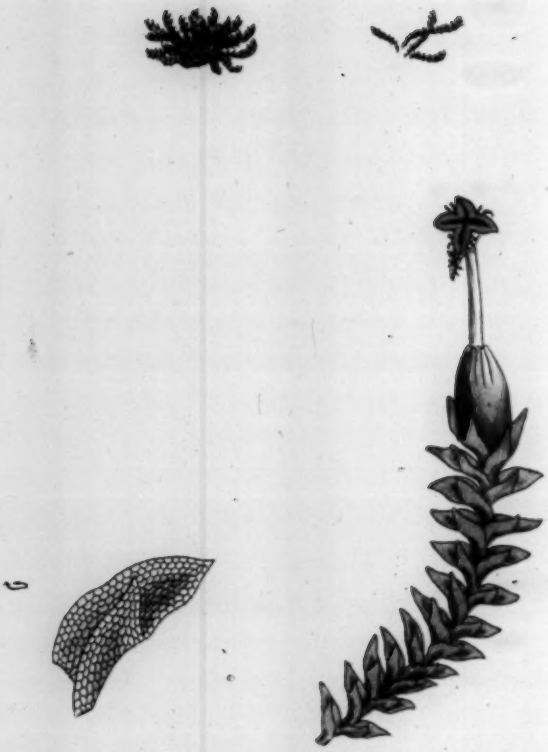
GEN. CHAR. Male flowers sessile. *Anthers* stalked. *Capsule* on a stalk, rising from a sheath, of 4 valves. *Seeds* attached to elastic filaments.

SPEC. CHAR. Erect, wavy, subdivided. Leaves in two rows, erect, concave, heartshaped, entire, clasping the stalk, without scales. Sheaths oblong-ovate, somewhat plaited; contracted and finely toothed at the orifice.

SYN. Jungermannia cordifolia. *Hooker Brit. Jung. t.* 32.

MR. HOOKER alone has already described this *Jungermannia*. Our specimens were gathered in Scotland by C. Lyell, Esq., the only person who has met with the sheaths of the female fructification. The perfect capsules are as yet undiscovered.

This plant grows in moist situations, on many mountains in the Highlands, and has also been found, by Mr. Woods, in Ireland. It composes dense tufts, an inch or two wide, conspicuous for the blackish hue, usual in aquatic mosses and *Jungermanniæ*. The stems are from one to three inches high, slender, leafy, erect but wavy, simple or branched. Leaves clasping the stalk and each other by their broad, almost tubular, base; they are heartshaped, bluntish and entire, without any stipulaceous scales. Sheaths terminal or lateral, elliptic-oblong, plaited lengthwise near the top, being much contracted at the orifice, and finely toothed. The young lateral shoots are peculiarly zigzag, with very small close leaves. Mr. Hooker considers this species as so distinct, that he cannot point out any one to which it is allied.



Mem. Acad. published by Jas. Lowry, London.

JUNGERMANNIA Dicksoni.

Dicksonian Jungermannia.

CRYPTOGAMIA Hepaticæ.

GEN. CHAR. Male flowers sessile. *Anthers* stalked. *Capsule* on a stalk, rising from a sheath, of 4 valves. *Seeds* attached to elastic filaments.

SPEC. CHAR. Ascending, scarcely branched. Leaves two-ranked, unequally two-lobed, folded; lobes ovato-lanceolate, acute, nearly entire. Sheaths terminal, ovate, plaited; contracted and toothed at the orifice.

SYN. Jungermannia Dicksoni. *Hooker Brit. Jung. t.* 48.

THE distinguished cryptogamist, to whom this species is inscribed, met with it many years ago in Scotland, and we have delineated one of his own specimens, communicated by Mr. Turner. The fructification was found there by Mr. Lyell, in August. We have been obliged to borrow it from Mr. Hooker's excellent drawing.

The plant forms small dense tufts, each shoot ascending obliquely, to the height of about half an inch. The hue of the whole is a light tawny, or yellowish, green. Leaves spreading in two ranks, without scales; each of two ovato-lanceolate acute lobes, one twice or thrice as big as the other, which is folded upon it, like *albicans*, *t.* 2240. The sheath is terminal, solitary, rather large, ovate and inflated, but pursed in, and toothed, at the summit. Capsule reddish brown, on a stalk of moderate length.

Hanc. 1814. Published by J. & T. Lowndes, London.

JUNGERMANNIA hamatifolia.

Hook-leaved Jungermannia.

CRYPTOGAMIA Hepaticæ.

GEN. CHAR. Male flowers sessile. *Anthers* stalked. *Capsule* on a stalk, rising from a sheath, of 4 valves. *Seeds* attached to elastic filaments.

SPEC. CHAR. Creeping, thread-shaped, branched. Leaves two-ranked, unequally two-lobed; the larger lobe ovate, with a curved point; the smaller involute. Scales ovate, acutely cloven. Sheaths lateral, obovate, with five prominent angles; contracted and toothed at the orifice.

SYN. Jungermannia hamatifolia. *Hooker Brit. Jung. t.* 51.

THIS remarkable species has been found in Yorkshire, Cumberland and Devonshire, as well as in Scotland and Ireland, frequently intermixed with its near relation *calyptrifolia*, *t.* 2538, and growing on the stems of *Ulex nanus*, or on Heath; sometimes on trees; bearing fructification early in the spring.

Its green colour, and creeping branching habit, agree with *calyptrifolia*; as well as the disposition of the leaves; but their form is very different. Each may be termed ovate and inflated, with a curved point, and an involute side-lobe, half the size of the leaf. The stipulaceous scales are broadish, deeply and acutely cloven. Sheaths lateral, obovate, contracted and toothed at the mouth, but not abrupt; furnished with five prominent or keeled, occasionally toothed, longitudinal angles. Fruitstalk, and capsule with its tubes, much as in *t.* 2538 and 2537. For these we are obliged to Mr. Hooker.

G.R. III.